INTRODUCTION

TO THE

PRACTICE

OF

MIDWIFERY.

PART THE FISRT.

By THOMAS DENMAN, M. D.

PHYSICIAN-MAN-MIDWIFE TO THE MIDDLESEX HOSPITAL,

AND

TEACHER OF MIDWIFERY IN LONDON.

LONDON:
PRINTED IN THE YEAR M.DCC.LXXXII.

TO

Dr. WILLIAM OSBORN.

DEAR SIR,

THESE Papers are printed for the uſe of the Gentlemen who have done us the honour of attending our Lectures. I requeſt you to accept them as a mark of my affectionate eſteem, and I earneſtly wiſh that they may commemorate the friendſhip, which beginning with our firſt ſtudies, has continued, undiſturbed, to the preſent time.

I am, dear Sir,

your ſincere friend,

and moſt humble ſervant,

THOMAS DENMAN.

Nov. 1, 1782.
Old Burlington-ſtreet.

CHAPTER I.

SECTION I.

On the Pelvis.

THE anatomical and phyſiological knowledge of the whole body, may, on various occaſions, be applied with advantage in the practice of midwifery, but that of the parts concerned in parturition is abſolutely neceſſary. In the conſideration of every ſubject there muſt however be ſome point of commencement, and as there is a propriety in the method purſued by ſyſtematic writers, I ſhall give a deſcription of the ſtructure, ſituation, connection, uſe, and diſeaſes of theſe parts, beginning with the *pelvis*, which is of great importance, on account of the direct influence which it has upon labours, and becauſe it may be eſteemed a foundation on which all the other parts are ſuſtained.

The term *pelvis* has been indiſcriminately given to the inferior part of the cavity of the *abdomen*, and to the bones which form the cavity: but it ſeems better to confine the term to the bones, and to call the ſpace between them, the cavity of the *pelvis*.

The *pelvis* in the adult ſtate is compoſed of four bones; the *ſacrum*, the *os coccygis*, and the *oſſa innominata*.

The *ſacrum* is ſituated at the poſterior and inferior part of the trunk of the body, and ſerves as a baſis for the ſupport of the ſpine, of which it is an imperfect continuation. Its figure is that of an irregular triangle, with the ſhorteſt ſide placed upwards. The anterior ſurface is ſmooth and flat, and has a conſiderable degree of inflection or curvature, called the hollow of the ſacrum, by which the cavity of the pelvis is much enlarged. To the poſterior ſurface, which is convex and uneven, the muſcles of the ſpine and thigh are attached.

In the infantile ſtate, the *ſacrum* is compoſed of five, and in ſome ſubjects of ſix bones, called falſe *vertebræ*, cemented together by intervening cartilages, which in the adult become bone, leaving little ridges or lines on the anterior ſurface, indicating the part where they had been ſeparate. Theſe bones diminiſh in their ſize as they deſcend, ſo that the loweſt, which makes the point of the *ſacrum*, ſcarcely maintains the character of one of the *vertebræ*.

The articulation of the upper part of the *ſacrum* with the laſt of the lumbar *vertebræ*, is ſimilar to that of the *vertebræ* with each other; but by the manner in which the *ſacrum* and *vertebræ* are joined, the latter inclining over the former, an obtuſe angle is made, called the great angle of the *ſacrum*.

Through the *ſacrum* there is a canal for the reſidence and ſecurity of the *medulla ſpinalis*; but the poſterior part of the canal is incomplete below the third bone, a ſtrong ligamentous ſubſtance ſupplying the place of bone. That part of the *medulla*, which is contained in the *ſacrum*, is called the *cauda equina*.

On the anterior part of the *ſacrum* there are four pair of holes or perforations, or more, according to the number of bones of which the *ſacrum* was originally compoſed, through which paſs large nerves for the uſe of the parts contained in the *pelvis*, and of the inferior extremities. On the poſterior part of the *ſacrum*, there is an equal number of perforations diſpoſed in the ſame longitudinal order; but they are leſs than thoſe on the anterior part, and covered by membranes, which allow ſmall nerves to paſs through them.

The *ſacrum* is of a very cellular texture, and is ſaid to be lighter than any other human bone of equal magnitude.

The lateral parts of the *ſacrum* form a broad unequal ſurface, by which it is connected with intervening ligamentous cartilages to another uneven ſurface at the poſterior part of the *oſſa innominata.* The inequalities of theſe ſurfaces, receiving and being received by each other, contribute very much to the firmneſs of the union of theſe bones. An *anchyloſis* is not unfrequently formed between the *ſacrum* and *oſſa innominata.*

To the inferior extremity or point of the *ſacrum* is ſubjoined the *os coccygis*, which has by ſome writers been conſidered as a diſtinct bone, and by others as an appendage to the *ſacrum*; and theſe form by the manner of their union, an obtuſe angle, called the little angle of the *ſacrum.* In infancy the *os coccygis* is cartilaginous, but in adult age it is compoſed of three or more, frequently of four bones, connected by intermediate cartilages, the uppermoſt of which is ſomewhat broader than the lower part of the *ſacrum.* In ſome ſubjects theſe bones coaleſce and form a ſingle bone; and in others an *anchyloſis* is formed between the *ſacrum* and *os coccygis*, in conſequence of which the latter is ſhortened and turned inwards, ſo as to obſtruct the head of the child in its paſſage through the *pelvis.* But the impediment thereby occaſioned may be overcome by the force with which the head is propelled, and the *os coccygis* again ſeparated from the *ſacrum*, of which I have known more than one inſtance. In general however, between the bones of which the *os coccygis* is compoſed, ſome regreſſive motion is preſerved; and that which is produced between the *ſacrum* and *os coccygis*, when the latter is preſſed by the head of a child paſſing through the *pelvis*, occaſions a conſiderable temporary enlargement of the inferior aperture of the *pelvis.* The inſertion of the *coccygæi* muſcles, of a part of the *levatores ani*, and of portions or ſlips of the ſacroſciatic ligaments into the ſides of the *os coccygis*, keep it ſteady, and prevent any lateral motion.

The *oſſa innominata* are the broad, large bones which form the forepart and ſides of the *pelvis*, and the lower part of the ſides of the *abdomen.* In children each of theſe bones is compoſed of three, and though they afterwards become one, the line of original diſtinction may be obſerved at the *acetabulum*, or ſocket which receives the head of the thigh bone. While the bones are diſtinct they have peculiar names, the *ilium*, the *iſchium*, and *pubis*, which it is neceſſary to retain in the adult ſtate, that we may be able to deſcribe with more accuracy each individual bone, or allude to it in the deſcription of the adjoining parts.

The *ilium* is the largeſt and uppermoſt of the bones which form the *oſſa innominata*. It is flat, broad, unequally convex and concave, in ſome parts round, and in others of an irregular ſquare figure. It is divided by anatomiſts into the *criſta*, *baſis*, anterior and poſterior edge, and the two ſides, external and internal.

The upper part, which has a thick, arched border, is called the *criſta*. The anterior and middle part of it is convex outwardly, and the poſterior ſomewhat convex inwardly. The *criſta* has originally on its verge an *epiphyſis*, of which there are often marks to an advanced age.

The baſis or inferior part of the ilium is thick and narrow. It forms anteriorly a portion of the *acetabulum*, and poſteriorly, a large ſhare of the circumference of the iſchiatic ſinus, which is completed by the *iſchium* and ſacroſciatic ligaments.

The anterior edge of the *ilium* has two eminences, called ſpines, diſtinguiſhed as ſuperior and inferior, between which there is an excavation or notch, and another below the inferior ſpine.

The poſterior edge is ſhorter and thicker than the anterior, and terminates with two protuberances or ſpines, between which there is alſo an excavation.

The external ſide of the *ilium* is convex on the fore, and concave on the back part. The internal ſide is irregularly concave; and upon that ſurface which is connected with the ſacrum there are ſeveral irregularities. From the upper part of this ſurface there runs a prominent line, which forms a margin, defining the upper aperture of the *pelvis.*

The *iſchium* forms the loweſt portion of the *oſſa innominata.* Its parts are deſcribed under the names of body, tuberoſity, or obtuſe proceſs, and *ramus.*

The body of the *iſchium* forms the loweſt and largeſt part of the *acetabulum*, and ſends out a ſmall *apophyſis*, which projects backwards and inwards, and is called the ſpine or ſpinous proceſs of the *iſchium.*

The tuberoſity or obtuſe proceſs is very thick and uneven, and is turned downwards. As it is the part on which the body reſts when we ſit, it hath alſo been called *os ſedentarium.* The convex portion was originally an *epiphyſis*, and from the remains of the tendons and ligaments which were affixed to it, has in the freſh ſubject a cartilaginous appearance.

The *ramus* is a flat thin proceſs or *apophyſis*, proceeding from the curvature of the tuberoſity, aſcending and joining to a ſimilar but ſhorter proceſs, which ſprings from the anterior and inferior part of the *oſſa pubis*. The *ramus* of the *iſchium*, aided by this ſhort proceſs, forms a large part of the outline of that opening, called the *foramen magnum iſchii*. This opening, in the recent ſubject, is filled up by a ſtrong ligamentous membrane, which gives riſe to the external and internal muſcles called *obturatores*.

The *oſſa pubis* contribute the ſmalleſt ſhare towards the formation of the *oſſa innominata*. Each of them has been deſcribed in three parts, the body, the angle, and the *ramus*.

The body is that part which is placed tranſverſely before the anterior part of the *ilium*, to which it is united, forming by this union the oblique eminence, which diſtinguiſhes on the inner part of the *pelvis* theſe two portions of the *oſſa innominata*. The body of the *pubis* ſerves alſo to the formation of the *acetabulum*. The upper edge has on its inner part an oblique ridge, which is called the *criſta*, and is continuous with that of the *ilium* beforementioned, as defining the margin of the *pelvis*.

The anterior part of the *pubis* is called the angle, and conſtitutes that ſurface which being joined to the oppoſite bone, forms the *ſymphyſis* of the *oſſa pubis*. This part of the bone is flat and thin. The *oſſa pubis* connected together form on the external or inferior ſide an unequal concavity; but on the internal or ſuperior ſurface, they are pretty equally convex, and both the edges have a ſmall degree of flexure outwards.

The *ramus* is a flat, thin, ſhort *apophyſis*, which running obliquely downwards, unites with that of the *iſchium*. The two *rami* of the *iſchia* and of the *oſſa pubis* form on the anterior and inferior part of the *pelvis* an arch, which is uſually called the arch of the *pubis*. This arch is much larger in women than men; which circumſtance is favourable to the emergence of the head of the child at the time of birth, and eſtabliſhes the moſt diſtinguiſhing mark betweeen the male and female *pelvis*.

SECTION II.

THE advantage to be derived from the knowledge of the bones of the *pelvis*, in a dried or ſeparated ſtate, is not very evident. But we may conſider the previous intelligence of this and ſome other parts of our ſubject as eſſentially uſeful, becauſe it comprehends the rudiments of a more perfect knowledge than can be otherwiſe acquired: we ſhall therefore proceed to examine the manner in which theſe bones are connected.

To the two lateral ſurfaces of the *ſacrum* are joined the poſterior ſurfaces of the *oſſa innominata*, and theſe are covered with a thin intervening cartilage, or ligamentous cartilage; the inequalities, as was before obſerved, contributing very much to the firmneſs of the junction. The *oſſa innominata* are alſo joined at the anterior part by a thin cartilage, which covers the ſcabrous end of each bone, and the ſpace between them is filled up with a ligamentous ſubſtance. This connection is called the *ſymphyſis* of the *oſſa pubis*.

Within the circuit of the *pelvis*, the *perioſteum* is thickened at the parts where the *oſſa innominata* are joined to the *ſacrum*, and at the *ſymphyſis* of the *oſſa pubis*. The *ſymphyſis* has alſo been deſcribed as connected by a thin tranſverſe ligament, or by ligaments which form what may be conſidered as a capſular ligament, adhering to the part which it encloſeth, and to which it gives the principal ſtrength. Greater ſtability could not be procured by any internal mode of union, without a diminution of the cavity of the *pelvis*.

But on the external parts of the *pelvis*, where the union of the bones could be more firmly eſtabliſhed by a ligament, there is no point where one is omitted; even the tendons of the muſcles inſerted ed into the projecting parts of the bones, though particularly deſigned for other purpoſes, eventually contribute to the ſtrength of the *pelvis*.

From the poſterior edges of thoſe ſurfaces of the *oſſa innominata* which are joined to the *ſacrum* ſtrong ligaments paſs, which bind theſe bones firmly together; and all that unequal ſpace behind them is filled up with ſmall muſcles, or the ſmall parts of large muſcles, in ſuch a manner as to give in the freſh ſubject, when covered by their tendinous expanſion, a ſurface almoſt ſmooth.

From the obtuſe proceſſes of the *iſchia*, ſtrong ligaments ariſe, which expanding, paſs to the poſterior edges and *apophyſes* of the *ſacrum*, detaching in their paſſage ſmall portions to the *os coccygis*. Theſe ligaments are called the broad or external ſacroſciatic. From the ſpinous proceſſes of the *iſchia*, ligaments ariſe, which croſſing and adhering to the ligaments before deſcribed, paſs to the inferior and inner edge of the *ſacrum* and the upper part of the *os coccygis*, ſending ſlips or ſmall portions to the edges of this bone through its extent. Theſe are called the internal ſacroſciatic ligaments.

SECTION III.

BY the knowledge of the parts where, and the manner in which the bones of the *pelvis* are connected together, we are enabled to explain many uneaſy ſenſations which women have, and many infirmities to which they are liable at the time of pregnancy and after their delivery.

It was for many centuries a received opinion, that theſe bones, though joined together in ſuch a manner as ſcarcely to afford any ſuſpicion of a ſeparation, were always ſeparated at the time of parturition; or that there was a diſpoſition to ſeparate, and an actual ſeparation, if the neceſſity of any particular caſe required that enlargement of the cavity of the pelvis which was conſequent to it. The degree of ſeparation was alſo ſuppoſed to be proportionate to ſuch neceſſity; and if it did not take place, or not in ſuch a degree as was required, diſtending inſtruments were contrived and uſed to produce or increaſe it: and upon the ſame principle the ſection of the *ſymphyſis* of the *oſſa pubis* hath been lately recommended. This opinion ought probably to be aſſigned as one reaſon, for the ſuperficial notice taken by the early writers in midwifery, of thoſe difficulties which are ſometimes found to occur at the time of parturition from the ſmallneſs or deformity of the *pelvis*. To this may alſo be referred much of the popular treatment of women in child-bed, and many popular expreſſions in uſe at the preſent time But this opinion hath been controverted by many writers, who aſſert, that there was neither a ſeparation, nor a diſpoſition to ſeparate; but that when either of them did happen, they were not to be eſteemed as common effects attendant on the parturient ſtate, but as diſeaſes of the connecting parts. The diſputants on each ſide have appealed to preſumptive arguments, and to facts proved by the examination of the bodies of thoſe who have died in child-bed, in juſtification of their ſeveral opinions. But notwithſtanding all which has been ſaid upon the ſubject, I know not that we are authorized by the experience of the preſent time to ſay, that a ſeparation, or a diſpoſition to ſeparate, prevail univerſally at the latter part of pregnancy, or at the time of labour; yet that theſe effects are often produced may be gathered from the pain and weakneſs at the parts where the bones of the *pelvis* are joined to each other, before and after delivery. In ſome caſes pregnant women are alſo ſenſible of a motion at the junction of the bones, eſpecially at the *ſymphyſis* of the *oſſa pubis*, and the noiſe which accompanies it may be heard by an attentive byſtander.

A ſtrong preſumptive argument in favour of the ſeparation of the bones has been drawn from quadrupedes. In theſe, the ligaments which paſs from the obtuſe proceſſes of the *iſchia* to the *ſacrum*, on which the firmneſs of the junction of the bones very much depends, and which at all other times reſiſt any impreſſion attempted to be made upon them, are for ſeveral days previous to parturition gradually deprived of their ſtrength, and the animal walks in ſuch a manner as would incline us to believe could only be produced by a ſeparation of the bones of the *pelvis*. Now it is not reaſonable to conclude, that a circumſtance which generally takes place in one claſs of viviparous animals ſhould never occur in another, eſpecially in a matter in which there is no eſſential difference.

We may, however, leave the queſtion to be completely ſettled by future obſervations. To inſiſt that either of the changes occur in every caſe, or that they never occur, ſeems an attempt to ſupport opinions repugnant to daily experience: for no perſon who has been converſant in the diſſection of women who have died in child-bed, can have wanted opportunities of ſeeing every intermediate ſtate of theſe parts, from a ſeparation in which the ſurfaces of the bones were looſened, and at a conſiderable diſtance from each other, to that in which there was not the leaſt diſpoſition to ſeparate.

Several caſes of the ſeparation of the bones of the *pelvis* having occurred in my own practice, I have been under the neceſſity of conſidering it with the moſt ſerious attention, and I preſume that it may be produced by two cauſes; firſt, a ſpontaneous diſpoſition of the connecting parts; ſecondly, the violence with which the head of the child may be protruded through the *pelvis*. Of a ſeparation from each of theſe cauſes it will not be improper to give an example, to prove the fact, and to ſhew its conſequences.

CASE I.

A young lady of a healthy conſtitution and lively diſpoſition, who was married in the twenty-firſt year of her age, was in the beginning of the year 1774 delivered of her third child, which was unuſually large, after a very ſevere and tedious labour. For ſeveral days before her delivery ſhe was rendered unable to walk without aſſiſtance, by pain and weakneſs in her loins. Her recovery was favourable and uninterrupted, except that for ſeveral ſucceeding weeks ſhe was incapable of ſtanding upright or putting one foot before the other; the attempt to do either being attended with pain, and a ſenſe of looſeneſs or jarring both at the parts where the *oſſa innominata* are joined to the *ſacrum*, and at the *ſymphyſis* of the *oſſa pubis*. By the uſe of ſuch medicines and means as contributed to ſtrengthen her conſtitution, ſhe was ſoon able to walk, and in a few months was perfectly well.

Having before ſeen a caſe of the ſame kind, I ſuſpected that theſe complaints were occaſioned by the weakneſs of the connection of the bones of the *pelvis*, and imputing this weakneſs to too frequent parturition, ſhe was adviſed to ſuckle her child a longer time, and accordingly continued a nurſe for fifteen months.

She ſoon conceived again, and when the time of her confinement drew near, the complaints which ſhe had in her former pregnancy were increaſed to ſuch a degree, that ſhe could neither walk or ſtand; and for three weeks there was reaſon to ſuſpect that the bones of the *pelvis* were ſeparating.

July 7, 1777, ſhe was delivered of her fourth child. At the time of her labour ſhe had frequent faintings, great marks of diſturbance and irritability, and was wholly unable to move her inferior extremities.

A few days after her delivery ſhe had a fever, which terminated in an abſceſs in one of her breaſts. By this, which was very painful and diſtreſſing, ſhe was confined to her bed for near ſeven weeks. At the end of nine weeks ſhe could walk with crutches, when ſhe was ſent into the country, from which ſhe received much benefit, as ſhe believed ſhe likewiſe did by drinking half a pint of a ſtrong infuſion of malt twice daily. In about five months ſhe was able to walk without aſſiſtance, though ſhe was ſometimes ſenſible of the motion of the bones, which ſeem never to have been perfectly united.

About Chriſtmas ſhe was again pregnant, and in July, 1778, being indiſpoſed to move, as ſhe imagined, by the ſudden and uncommon heat of the weather, the pain and weakneſs in her back returned, and ſhe could not walk any more without aſſiſtance to the time of her labour, which came on October 11. On the 13th ſhe was delivered of a very fine child. Her labour, which was uncommonly ſevere and alarming, was made infinitely more fatiguing by her inability to move, all power of ſupporting herſelf being loſt, and every neceſſary change of poſition being made by her aſſiſtants.

On the fourth day after her delivery ſhe was ſeized with a fever which was ſoon removed, but her ſituation remained really deplorable. The pain at the junction of the bones continued, ſhe had no command of her inferior extremities, and when ſhe was moved, the pain became excruciating, as if ſhe was tearing aſunder. Her ſtomach was at all times much diſturbed: but when ſhe had the pain in an increaſed degree, a vomiting, or oppreſſive nauſea, or hiccough was brought on. The pain

alſo

alſo produced ſtrange ſympathies in various parts, as a very teazing cough, a conſtant ſneezing, a ſenſe of weight in her eyelids, which ſhe could not keep open, though ſhe was not ſleepy, noiſe in the bowels, and many other nervous affections: when, therefore, the pain was violent, ſhe had recourſe to opiates, which ſhe took diſcretionally, and the pain being quieted, the ſympathies ſoon ceaſed..

At the requeſt of my patient, I explained upon a ſkeleton the opinion entertained of her complaints; and when I pointed out the manner in which the parts were ſuppoſed to be affected, ſhe was fully perſuaded of the truth of the opinion.

In this ſituation ſhe had remained for ſeveral months, when it was thought expedient that ſhe ſhould be raiſed from her bed, and make an effort to ſtand or walk, leaſt her complaints ſhould be rendered worſe by the habit of reſting ſo long in an inactive ſtate. Every poſition was tried, and every contrivance made, which had a chance of being uſeful; but the power of ſupporting herſelf was totally gone, the motion of the bones was plainly perceived, and the conſequences of every trial were ſo painful and uncomfortable, that it was not judged proper to repeat them, but to wait till by time the connection of the bones was more confirmed.

About ſix months after her delivery ſhe menſtruated, which ſhe has continued to do at irregular periods; yet, though much benefit was expected from this circumſtance, no alteration hath been produced by it with reſpect to her complaints.

In the year 1779 ſhe was removed upon a couch in a boat to Margate, for the benefit of the air and bathing in the ſea, from which ſhe is always ſenſible of receiving advantage. There ſhe has continued to reſide; and though four years are elapſed ſince the time of her delivery, ſhe is but juſt able to walk tolerably with her crutches, though ſenſible of a gradual amendment.

CASE II.

Many years ago I attended a young woman of a healthy, but delicate conſtitution, who was in labour of her firſt child. The *os uteri* was fully dilated, the membranes broken, and the waters diſcharged, before I arrived at her houſe.

She was immediately put to bed, and the pains being very ſtrong, the head of the child was ſoon preſſed upon the *perinæum*, the laceration of which I endeavoured to prevent by ſupporting it in the uſual manner: but the head of the child was forced through the external parts in oppoſition to the reſiſtance which I was able to make.

At the inſtant when the head of the child was expelled, I perceived ſomething to jar under my hand, and was even ſenſible of a noiſe, which led me to ſuſpect, that the *perinæum* was lacerated by the ſudden expulſion of the head.

After a ſhort time, the *placenta* being ſeparated and protruded into the *vagina*, was extracted without hurry or violence. The uneaſineſs of which ſhe then complained, being ſuppoſed to be what are called afterpains, did not make me ſolicitous, but a few drops of *tinctura thebaica* were given to appeaſe it.

On the following days ſhe complained of more than uſual pain in the lower part of the *abdomen*, which ſhe did not accurately deſcribe; but as there was no ſymptom of fever, and the milk was duly ſecreted, no particular enquiry was made, and I preſumed that ſhe would ſoon be well.

On the fourth day after her delivery ſhe was taken out of bed, but could not ſtand or ſit in her chair on account of the pain and weakneſs in the part of which ſhe complained, and which I found to be immediately upon the *ſymphyſis* of the *oſſa pubis*.

For near three weeks ſhe remained in the ſame ſtate, perfectly well in her health, and eaſy in her bed, unleſs when ſhe attempted to turn on either ſide: but when ſhe was removed from her bed, ſhe could neither ſtand or make any effort to walk without aſſiſtance, but ſhe could ſit for a few minutes,

nutes, reſting her elbows upon the arms of the chair.

The continuance of a complaint ſo very uncommon, rendered it neceſſary to have a conſultation, and a gentleman of great experience and ability was called in. After a very careful examination, we found the internal parts in the natural ſituation and free from diſeaſe; the *perinæum* was not lacerated, nor was there the leaſt appearance of injury about the external parts: but it was judged by the ſeat of the pain, by her inability to ſtand or walk, except in particular attitudes and poſitions, that the *ſymphyſis* of the *oſſa pubis* had given way, and was wholly ſeparated. And there was ſcarce a doubt but that the ſeparation had taken place when the bulk of the head of the child was paſſing between the ſpinous proceſſes of the *iſchia*, when I was ſenſible of the jarring and noiſe.

As the opinion of the ſeparation was chiefly founded on the particular attitudes and poſitions in which the patient ſought relief, it ſeems neceſſary to deſcribe them more fully, and they were very remarkable.

When ſhe endeavoured to ſtand upright, which ſhe could do better on one foot than both, and better with her feet cloſe than at a diſtance, together with the pain at the *ſymphyſis*, ſhe had a ſenſe of extreme weakneſs accompanied with faintneſs.

When ſhe firſt ſat down in her chair, reſting her elbows upon the arms of the chair, the complaints became tolerable. When ſhe had remained a little time in this poſition, they were again importunate, and ſhe ſupported herſelf with her hands upon her knees, and preſently bent forwards ſo as to lean her elbows upon her knees; this poſition becoming irkſome, ſhe was obliged to return to her bed, where ſhe was immediately eaſy. When ſhe firſt attempted to walk, ſhe was compelled to bend forwards in ſuch a manner as to reſt her hands upon her knees, making a ſtraight line from her ſhoulder to her feet.

The explanation of her caſe, and the comfort ſhe received from the aſſurance that was given of her recovery, encouraged her to bear her confinement and the preſent inconveniencies ſhe ſuffered with compoſure; yet the knowledge we had acquired, preſuming our opinion to be true, was uſeful rather by teaching us how to avoid miſchief, than by enabling us to render any actual ſervice.

At the end of fourteen weeks, whilſt ſhe was in a coach, into which ſhe had often been lifted for the benefit of air and exerciſe, ſhe had a diſcharge which ſhe ſuppoſed to be menſtruous, and though it had ceaſed before her return, ſhe was ſenſible of immediate relief. From that time ſhe mended daily, and in ſix weeks was able to walk, her complaints having gradually left her.

She had afterwards three children, with all which I attended her. Her labours were eaſy, and neither before nor after her delivery had ſhe any tendency to the complaints I have been deſcribing.

The diſcharge which preceded her recovery was thought to be menſtruous: but as it had ceaſed before her return, and gave relief to a part not directly affected by menſtruation, it is more reaſonable to conclude that it was from the *ſymphyſis*, and of whatever kind it was, that it had acted as an extraneous body, preventing the re-union of the bones.

Inſtances have occurred, though they are rare, of women, who after labours have loſt all power of moving their inferior extremities, and the inability has been imputed to ſome paralytic affection; they are ſaid to be bedridden, which deſcribes the effect, though it does not explain the cauſe of their diſeaſe. As theſe patients have, after a confinement of ſeveral years, been generally reſtored to the uſe of their limbs, it is not unreaſonable to think that their infirmity was occaſioned by a ſeparation of the bones, which at different periods after the accident, had recovered their former connection and ſtrength.

SECTION IV.

AN enquiry into the manner in which the bones of the *pelvis* may re-unite when they have been ſeparated ſeems neceſſary, as the treatment to be enjoined, and the proſpect of ſucceſs, will be regulated by the idea we entertain of the ſtate of the parts when ſeparated.

When the connection of the bones of the *pelvis* has either been impaired or deſtroyed, it is probable that a confirmation or re-union takes place by a reſtoration of the original mode, by a *callus*, as in the caſe of a fractured bone, or by *anchyloſis.*

It is alſo poſſible for them to remain in a ſeparated ſtate, and that an articulation ſhould be formed by the ends of each bone, of which I have ſeen an example in a dead body, at the *ſymphyſis* of the *oſſa pubis*, and at the junction of the *oſſa innominata* with the *ſacrum*, and have had reaſon to ſuſpect the ſame accident in the living.

In all the lower degrees of imperfection in the union of theſe parts, it is reaſonable to conclude, that the former mode is reſtored ſoon after delivery; for the complaints which women make of pain and weakneſs in theſe parts are almoſt always relieved before the end of their month of confinement: but ſhould they continue a longer time, it appears that the greateſt benefit will be derived from reſt and an horizontal poſition, which will leſſen the preſent inconveniences, and favour that action of the parts by which their infirmity muſt be repaired.

But if the complaint is in an increaſed degree, and the health of the patient likewiſe affected, a longer time will be required for the recovery of the part, which may be forwarded by ſuch means as invigorate the conſtitution, or ſuch applications as quicken the action of the parts.

Should the injury be too great to allow of the reſtoration of the original mode of union, of which we are to judge by the conſequent impotence to move, a much longer time will be required for the formation of a callus, if that is ever done, but as a previous ſtep to an *anchyloſis*, which has been obſerved by anatomiſts to take place at the junction of the *oſſa innominata* with the *ſacrum*, not unfrequently, but never or very ſeldom at the *ſymphyſis* of the *oſſa pubis*. Under ſuch circumſtances, unleſs by an amendment of the general health, little good is to be expected from medicine, the proceſs which the parts muſt undergo being an operation of the conſtitution which it will not be in our power to control. In the firſt caſe related, a variety of applications were tried, as bliſters and ſtimulating ones of every kind, to the moſt emollient, but from cold bathing only did ſhe receive any advantage. The patient was alſo aſſiſted by the uſe of a ſwath, or broad belt, made of ſoft leather, quilted, and buckled with ſuch firmneſs over the lower part of the body, as to leſſen, if not prevent the motion of the bones; and this was reſtrained in its ſituation by a bandage paſſed between the legs, from the hind to the fore part of the belt.

In that unfortunate ſituation, in which a joint is formed between the ſeparated ſurfaces of the bones, all hopes of the recovery of the patient to her former abilities may be given up; and what remains to be done for her relief, will be by the uſe of a belt, or a ſimilar contrivance, to ſubſtitute as much artificial firmneſs as we can for the natural which is loſt. In the caſe in which I ſuſpected this event to have happened, the life of the patient was truly miſerable: but I preſume that ſuch very rarely occur, having been lately informed of a perſon, who after a confinement of eight years to her bed, in conſequence of the ſeparation of the bones at the time of labour, was reſtored to the full and perfect uſe of her inferior extremities.

SECTION V.

THERE is a wonderful variety in the poſition of the *pelvis* in the different claſſes of animals, as it relates to that of the body in general, and their powers and properties very much depend upon this circumſtance. But with a view to this ſubject, they may be divided into three kinds, the ſtrong, the ſwift, and the mixed.

In thoſe animals which poſſeſs the greateſt ſhare of ſtrength, the poſition of the *pelvis* is nearly perpendicular, and the two apertures of the cavity horizontal.

In thoſe which are diſtinguiſhed by their ſpeed or agility, the poſition of the *pelvis* is horizontal, and the two apertures nearly perpendicular.

In mixed animals, or thoſe in which ſtrength and ſpeed are united, the poſition of the *pelvis* is neither horizontal or perpendicular, but inclined, ſo as to partake, by different degrees of inclination, of the advantages of either poſition.

In the human ſpecies, when the poſition of the body is erect, the *pelvis*, which is ſtronger in proportion to their ſize than in any quadruped, is ſo placed, that a line paſſing from the third of the lumbar *vertebræ* will fall nearly upon the ſuperior edge of the *ſymphyſis* of the *oſſa pubis*; the cavity of the *pelvis* being projected ſo far backwards, that the *oſſa pubis* become the part on which the enlarged *uterus* chiefly reſts in the advanced ſtate of pregnancy. If then we recollect the ſmallneſs of the *oſſa pubis*, the manner in which they are connected, and advert at the ſame time to the increaſing effect, which may be produced by the internal preſſure of the weight ſupported by them, we ſhall not be ſurprized at the frequency of the complaints of pain and weakneſs at the *ſymphyſis*, eſpecially when the child is large, or the patient under the neceſſity of ſtanding for a long time. And ſhould there be any degree of weakneſs, relaxation, or diſunion, at the parts where the *oſſa innominata* are joined to the *ſacrum*, ſimilar effects will be produced; and one of theſe parts can ſcarcely be affected without an equivalent alteration in the other.

The conſequences of the ſeparation of the bones of the *pelvis*, or of their diſpoſition to ſeparate, will be more clearly comprehended, if we conſider the *pelvis* as an arch ſupporting the weight of the ſuperincumbent body. In this view, the *ſacrum* may be called the key-ſtone, the *oſſa innominata*, as far as the *acetabula*, the pendentives, and the inferior extremities, the piers of the arch.

If a greater weight be laid upon an arch than it is able to ſuſtain, one of theſe conſequences will follow; the key-ſtone will fly, the pendentives will give way, or the piers will yield to the preſſure.

To prevent the two firſt accidents, it is uſual to lay heavy bodies upon the different parts of the arch, the weight of which muſt bear a relative proportion to each other, or the contrary effect will be produced; for if too great weight be laid upon the key-ſtone, the pendentives will fail; and if there be too much preſſure upon the ſides, the key-ſtone will be forced.

When the greateſt poſſible ſtrength is required in an arch, it is uſual to make what is called a counter-arch, which is a continuation of the arch till it becomes circular, or of any intended form. This contrivance changes the direction of the weight, before ſupported at the chord, and part of it will be conducted to the centre of the counter-arch, and borne in what is called the ſine of the arch.

If the reſemblance of the *pelvis* to an arch can be allowed, we may conſider all the fore or lower part of it, between the *acetabula*, as a counter-arch, which will explain to us the reaſon of ſo much ſtreſs being made upon the *ſymphyſis* of the *oſſa pubis*, when there is any increaſe of the ſuper-incumbent weight, or when that part is in a weakened or ſeparated ſtate, as in the ſecond caſe before deſcribed.

When that patient lay in an horizontal poſition ſhe was perfectly eaſy, there being then no weight upon the *pelvis.*

When ſhe was erect, the weight borne by the *ſymphyſis*, being greater than it could ſupport, ſhe could walk before ſhe could ſtand; or if ſhe ſtood, ſhe was obliged to move her feet alternately, as if ſhe was walking; or ſhe could ſtand upon one leg better than upon both. By theſe various movements ſhe took the ſuperincumbent weight from the weakened *ſymphyſis*, and conducted it by one leg in a ſtraight line to the ground.

The fatigue of walking, or of the alternate motion of the feet, being more than ſhe was able to bear, ſhe was obliged to ſit. When ſhe firſt ſat in her chair, ſhe was upright, reſting her elbows upon the arms of the chair, by which means part of her weight was conducted to the chair, not deſcending to the *pelvis.* But there being then more weight upon the *ſymphyſis* than it was able to bear for any long time, and her arms being weary, by putting her hands upon her knees, ſhe took off more of the ſuperincumbent weight, conducting it by her arms immediately to her knees. When ſhe reſted her elbows upon her knees, the ſame effect was produced in an increaſed degree; but this poſition becoming painful and tireſom, ſhe had no other reſource, but was obliged to return to her bed.

It cannot eſcape obſervation, that this patient inſtinctively diſcovered the advantages of the particular attitudes into which ſhe put herſelf, and by which ſhe obtained eaſe, as exactly as if ſhe had underſtood her complaint, and the manner in which I have endeavoured to explain it.

In the wearineſs which follows common exerciſe, when we often change our poſition, apparently without deſign, the manner in which eaſe is procured to any particular part, may be underſtood by a more extenſive application of the ſame kind of reaſoning.

SECTION VI.

THE violence which the connecting parts of the bones undergo, when the head of the child is protruded through the *pelvis* with extreme difficulty, ſometimes occaſions an affection of that part of more importance than a ſeparation; becauſe, together with the inconveniencies ariſing from the ſeparation, the life of the patient is endangered by it. This is the formation of matter, preceded by great pain, and other ſypmtoms of inflammation, though in the beginning of the complaint it is difficult to aſcertain whether the connecting parts of the bones, or ſome contiguous part, be the ſeat of the diſeaſe.

In ſome of theſe caſes, when matter has been formed and confined at the *ſymphyſis* of the *oſſa pubis*, the ſymptoms of a hectic fever have been produced, and the cauſe has been diſcovered after the death of the patient. In others, the matter has burſt through the capſular ligament of the *ſymphyſis* at the inferior edge, or perhaps made its way into the bladder; and in others, it has inſinuated under the *perioſteum*, continuing its courſe along the *pubis* till it arrived at the *acetabulum*. The miſchief being thus extended, all the ſymptoms were aggravated, and the matter making its way towards the ſurface, a large abſceſs has been formed on the inner, or fore part of the thigh, or near the hip, and the patients being exhauſted by the fever and profuſe diſcharge, have at length yielded to their fate. On the examination of the bodies after death, the track of the matter has been followed from the aperture of the abſceſs to the *ſymphyſis*, the cartilages of which were found to be eroded, the bones carious, and the adjacent parts very much injured or deſtroyed.

It may perhaps, be poſſible to diſcover by ſome particular ſymptom, when there is in this part a diſpoſition to ſuppurate; or it may be diſcovered when ſuppuration has taken place; and in all caſes of unuſual pain, attended with equivocal ſymptoms, it would be proper to examine theſe parts with great care and attention. For when there is a diſpoſition to ſuppurate, by proper means it might be removed; and when matter is formed, if there be a tumefaction at the *ſymphyſis*, more eſpecially if a fluctuation could be perceived, we might deliberate upon the propriety of making an inciſion to evacuate the matter, and by ſuch proceeding further bad conſequences might be prevented.

SECTION VII.

THE form of the ſuperior aperture of the *pelvis* has been deſcribed by ſome as triangular, and by others as oval, with the wideſt part from one ſide to the other. But the inferior aperture, independent of the ligaments and ſoft parts, cannot be ſaid to reſemble any known or general form, on account of its irregularity, though the wideſt part is from the inferior edge of the *ſymphyſis* to the point of the *os coccygis*, allowing for the regreſſive motion of that bone.

The dimenſions of the ſuperior aperture of the *pelvis*, from the upper part of the *ſacrum* to the upper edge of the *ſymphyſis*, are generally ſtated to be rather more than four inches, and between the two ſides they ſomewhat exceed five.

Of the dimenſions of the inferior aperture it is difficult to form a judgment; but if the ligaments are preſerved, it may be ſaid that the proportions are reverſed, the narroweſt part being on each ſide. But in the form and dimenſions of the *pelvis* in different women, there is an endleſs variety, not depending upon any alteration which may be produced by diſeaſe.

The depth of the *pelvis*, from the upper part of the *ſacrum* to the point of the *os coccygis*, is about five inches; but this will be increaſed when the bone is preſſed backwards. From the margin of the *pelvis* to the inferior part of the obtuſe proceſſes of the *iſchia*, the depth is about three inches, and at the *ſymphyſis*, about one and a half. It appears that the depth of the *pelvis*, at the poſterior part, is rather more than three times the depth of the anterior, and that there is a gradual change between the two extremes, if we admit the ligaments to make a part of the outline of the inferior

rior aperture. The knowledge of theſe circumſtances will enable us to judge, in the living ſubject, how far the head of the child has proceeded through the *pelvis*, and prevent any deception to which we might be liable, if we were to form our opinion by the readineſs with which we can feel the head at the anterior part.

The cavity of the *pelvis* is of an irregular, cylindrical form, but towards the inferior aperture there is ſome degree of convergence, made by the points of the ſpinous proceſſes of the *iſchia* and the termination of the *os coccygis*. This convergence is of great importance in regulating the paſſage of the head of the child, as it deſcends towards the inferior aperture; and being perfected, by the ſoft parts, it gives to the *vertex*, or preſenting part of the head, the diſpoſition to emerge under the arch of the *pubis*.

On the concavity or hollow of the *ſacrum*, the caſe or difficulty with which the head of the child paſſeth through the *pelvis* will very much depend; and a ſimilar curvature is continued by means of the iſchiatic *ſinus*, and by the diſpoſition of the ſacroſciatic ligaments to the obtuſe proceſſes of the *iſchia*, where the ſides of the *pelvis* are perpendicular. The upper edge of the *oſſa pubis* has a ſlight reflection outwards, which prevents any obſtruction to the entrance of the head of the child into the *pelvis*; and at the lower edge there is ſome degree of divergence, by which the departure of the head out of the *pelvis* is very much facilitated.

SECTION VIII.

BEFORE we proceed to the examination of the manner in which the head of the child paſſeth through the *pelvis* at the time of birth, it is neceſſary to examine its dimenſions and ſtructure.

The largeſt part of the head of a child, not altered by compreſſion, is from the hind to the forehead. The diameter from one ear to another is leſs by nearly the ſame proportion, as the ſpace between the *ſacrum* is leſs than that between the ſides of the *pelvis*, at the ſuperior aperture.

The head of a child, which appears to be larger according to the ſize of the body than that of other animals, is at the time of birth incompletely oſſified, at every part where the bones of which the *cranium* is compoſed afterwards unite; but chiefly at the greater fontanelle, or that part where the parietal and frontal bones meet in the adult. By this incomplete oſſification, and by the preſſure to which the head of the child is ſometimes ſubject in its paſſage through the *pelvis*, the form of the head may be very much altered, and the dimenſions leſſened; for the edges of the bones will not only accede to each other, but will lap over in a very extraordinary manner, without any detriment to the child. The degree of oſſification varies in different ſubjects; but the head of a newborn infant is univerſally found to be incompletely oſſified, and the advantage reſulting from it, is not only perceived in thoſe difficulties which may be occaſioned by the natural large ſize of the head of the child, but in thoſe alſo which are produced by all the lower degrees of deformity of the *pelvis*. And it is evident beyond all doubt, if this proviſion had not been made, that many children muſt have been deſtroyed at the time of birth, or their parents muſt have died undelivered.

Daily experience ſufficiently proves, that there is a relative proportion between the head of the child and the *pelvis* of the mother; and from the excellent order obſerved in all the operations of nature, it is reaſonable to conclude, that the largeſt part of the head is conformable to the wideſt part of the *pelvis*. By the examination of a great number of women who have died in various ſtages of the act of parturition, it has appeared, contrary to the general doctrine of the ancient and of ſome modern writers, when the poſition of the head was perfectly natural, that the ears were placed towards the *ſacrum* and *pubes*, or a little obliquely, and that the *vertex*, or that part where the hair diverges, is exactly or nearly oppoſed to the center of the ſuperior aperture of the *pelvis*. In the courſe of the deſcent of the head, there being ſome difference in the form of the *pelvis* at each particular part of the cavity, the poſition of the head is accommodated to each part, not by accident but compulſion, in conſequence of that convergence at the lower part of the *pelvis* beforementioned. And with reſpect to the *pelvis*, the lower the head of the child has deſcended, the more diagonal is the poſition of the ears; but they are not placed exactly towards the ſides of the *pelvis*, even when a portion of the head has emerged under the arch of the *pubis*. But this deſcription of the changing poſition of the head of the child in its paſſage through the *pelvis*, is founded on the preſumption that it preſents naturally, and is guided by the form of the internal ſurface. If the head ſhould preſent differently, there will be correſponding, but not the ſame changes; or if it ſhould be very ſmall, it will not be influenced by the *pelvis*, but may paſs in any direction.

It does not appear that any ill conſequences would follow an erroneous opinion of the manner in which the head of the child is protruded through the cavity of the *pelvis* in a natural labour; for no aſſiſtance being wanted, no principle was required for the regulation of our conduct. But in all caſes, in which there was a neceſſity of giving aſſiſtance, and where a change of what was deemed the wrong poſition of the head was compriſed, as a very material part of that aſſiſtance, as in the uſe of the forceps, great miſchief muſt often have been unavoidably done both to the parent and child.

SECTION IX.

FROM the examination of the form and dimenſions of the cavity of the *pelvis*, and of the head of a child, attempts have been made to explain all the circumſtances of a labour upon mechanical principles, and to eſtabliſh the practice of midwifery upon the foundation of thoſe principles.

It may be ſuppoſed for a moment that the paſſage of the head of a child, through the cavity of the *pelvis*, ſhould be conſidered ſimply as a body paſſing through a ſpace, and we may try whether it is poſſible to apply mechanical principles with advantage for the explanation.

The firſt circumſtance to be conſidered in the attempt is, to aſcertain with preciſion the capacity of the ſpace. It is true, that we have had many menſurations of the *pelvis* in all its parts, and that we have acquired a competent knowledge of the general dimenſions, but we know at the ſame time, that there is in the *pelvis* of every individual woman ſome variety, and that the exact knowledge of theſe varieties cannot be gained in the living ſubject.

It is equally neceſſary that we ſhould have an accurate knowledge of the ſize of the body intended to be paſſed through this ſpace. But though we have a good general idea of the figure and bulk of the heads of children at the time of birth, we are not ignorant that thoſe of no two children are exactly alike, and that the peculiar difference cannot be diſcovered before a child is born.

The head of a child is of a limited ſize before it enters the cavity of the *pelvis*, but by compreſſion in its paſſage, this is altered in a manner and to a degree of which it is impoſſible to form any previous judgment.

In the conſideration of a body paſſing through a ſpace, there is a neceſſity of knowing whether it be to paſs by its own gravity or force, or is to be propelled by any adventitious power. If by the latter, as is the caſe of a child at the time of birth, the knowledge of the degree of that power is neceſſary, to enable us to form an eſtimate of the poſſibility or likelihood of its ſucceſs; but of the degree of this power we can form a very uncertain conjecture in any particular caſe.

If then we have no preciſe ideas of the dimenſions of the ſpace, nor of the magnitude of the body, nor of the alterations in ſize or form which the body may undergo, nor of the power excited to propel the body, it does not appear poſſible to explain upon mechanical principles the progreſs of a labour.

So much is however to be granted to the introduction of mechanical principles into the practice of midwifery, that they afford the greateſt advantage in all thoſe caſes of extreme difficulty in which the aſſiſtance of art is required, becauſe ſuch aſſiſtance muſt be given upon thoſe principles. And though they will not explain, they will illuſtrate the operations of the animal body, and when applicable, are the ſureſt guides of human actions. But on the whole, a fondneſs for, and ſome affectation of mechanical principles, ſeems to have been very detrimental, as to them the frequent and unneceſſary uſe of inſtruments, in the practice of midwifery, may in a great meaſure be attributed.

SECTION X.

THE obſervations which were made on the form and dimenſions of the cavity of the *pelvis* relate to its natural ſtate, but they are alſo to be conſidered when the *pelvis* is diſtorted.

Of the diſtortion of the *pelvis* there are two general cauſes. The firſt is that diſeaſe incident to children in the very early part of their lives, known by the term *rachitis*, which preventing the bones from acquiring their due ſtrength or ſufficient firmneſs to ſupport the weight of the ſuperincumbent body, they bend in different directions and degrees, according to the weight impoſed upon them. The ſecond is a diſeaſe which may occur at any period of life, and from its effect is called *mollities oſſium*. It is far leſs frequent than the *rachitis*, but more dreadful in its conſequences, which no medicine hitherto tried has had ſufficient efficacy to prevent. In this diſeaſe the oſſific matter is not thought to be diſſolved or altered, but to be re-abſorbed from the bones into the conſtitution, and carried out of the body by the common emunctories, or depoſited upon ſome other part where it is uſeleſs or prejudicial. The bones thus loſing the principle of their ſtability, become ſoft according to the degree and continuance of the diſeaſe, are unable to ſuſtain the weight of the body, change their natural forms, and in ſome inſtances, the moſt diſtorted and frightful appearance of the whole body hath been exhibited.

The effect of either of theſe diſeaſes is not confined to the *pelvis*, yet it is ſcarcely poſſible that either of them ſhould exiſt for any length of time without producing their influence upon it.

The *pelvis* is more commonly diſtorted at the ſuperior aperture than at any other part. This is particularly occaſioned by the projection of the upper part of the *ſacrum*, and the loweſt of the lumbar *vertebræ*; though in very bad caſes a conſiderable deviation from their natural poſition is given to ſeveral of the *vertebræ*. Should a diſeaſe exiſt in the conſtitution, which is capable of weakening the bones, it will not appear extraordinary that the *ſacrum* ſhould be diſtorted, if we recollect that its texture is originally ſpongy, that it ſupports, both in the erect and ſedentary poſition, a great part of the weight of the body, and that by the manner of its junction with the laſt of the *vertebræ*, a conſiderable angle is made, which if but little increaſed, will cauſe a very important change in the form and dimenſions of the ſuperior aperture of the *pelvis*. In ſome caſes an irregular convexity, and in others a concavity, are produced by the bending of the *oſſa pubis* in different ways and degrees, by which, together with the projection of the *ſacrum* and lumbar *vertebræ*, the dimenſions of the ſuperior aperture of the *pelvis*, which in the narroweſt part ſhould exceed four inches, are reduced to leſs than one, and altered in every poſſible direction.

The form and dimenſions of the cavity of the *pelvis* may be changed in any part of its ſpace; but the moſt frequent alterations proceed from the *ſacrum*, which beſides the projection before-mentioned, may become too ſtraight, when the advantages which ſhould be derived from its concavity will be loſt. Or it may have too much curvature, by which the concavity will be rendered ſo ſmall as not to admit the head of the child; or an *exoſtoſis* may be formed on its internal ſurface, which will be the cauſe of inconveniencies equivalent to thoſe occaſioned by the want of a proper degree of curvature.

The *os coccygis* may be preſſed inwards in ſuch a manner that the point of it may approach the center of the cavity; or the motions between the different portions of the bone may be loſt; or an *anchyloſis* may be formed between that bone and the *ſacrum*: by all which changes, according to their degree, the head of the child may be impeded in its paſſage through the *pelvis.*

The *iſchia* may be diſtorted by the unnatural bent of the ſpinous proceſſes, and the effect of their preſſure may be obſerved on the temporal or parietal bones of the head of a child propelled between them with much difficulty. The dimenſions of the inferior aperture may alſo be leſſened by the tuberoſities of the *iſchia* turning inwards or forwards, by which the arch of the *pubes* will be leſſened, and rendered unfit to allow of the emergence of the head of the child, under the *ſymphyſis* of the *oſſa pubis.*

When the ſtability of the bones of the *pelvis* is impaired, it is not poſſible to enumerate every kind of diſtortion which they may ſuffer, but it is principally in the degree that we are to ſeek for thoſe great and ſometimes inſurmountable difficulties which occur in the practice of midwifery, and prove dangerous both to the parent and child.

In ſome caſes, the diſtortion of one part of the *pelvis* produces an enlargement of the reſt. Thus when the ſuperior aperture is contracted, the inferior is expanded; and hence it is often obſerved in practice, when the head of the child hath paſſed the point of obſtruction with the moſt tedious difficulty, that a labour will be unexpectedly and ſpeedily completed.

When women have the appearance of being much deformed, it is reaſonable to think that the *pelvis* muſt be affected. But there have been many inſtances of extreme diſtortion of the ſpine, yet the *pelvis* has preſerved its proper form and dimenſions; and ſome women who were in other reſpects ſtraight and well proportioned have had a diſtorted *pelvis*.

If the inferior extremities are bent, or if any part of the body was diſtorted at a very early period of life, it is ſaid that we may be aſſured the *pelvis* partakes of the diſeaſe, and is involved in its conſequences. But when the ſpine becomes diſtorted at a more advanced period, it is not to be eſteemed a preſumptive ſign of a diſtortion of the *pelvis*, being generally occaſioned by a local diſeaſe of the ſpine. Theſe obſervations are, I believe, commonly well founded; but as there are many exceptions, we ſhould not be juſtified in giving an opinion of a caſe of this kind, unleſs we were permitted to make an examination *per vaginam*. Nor ſhould we be able by this examination to determine with preciſion the exiſtence of diſtortion, but the degree. If we ſhould not be able to feel any projection of the *ſacrum* or *vertebræ*, we ſhould have a right to conclude that there is no conſiderable deformity of the *pelvis*; but if we could feel the *ſacrum* or *vertebræ*, we muſt judge by the readineſs with which they can be felt, of the degree of diſtortion, and of the impediments which may be thereby occaſioned. But in a matter of ſo much concern it behoveth us to be extremely circumſpect before we give an opinion, leaſt by our error the peace of families and the comfort of individuals ſhould be deſtroyed.

CHAPTER II.

SECTION I.

On the external Parts of Generation.

THE preceding account of the *pelvis* appearing ſufficient to ſerve all the uſeful purpoſes of the practice of midwifery, we ſhall in the next place conſider the parts of generation, which have been properly divided into external and internal.

The external parts are the *mons veneris*, the *labia*, the *perinæum*, the *clitoris*, and the *nymphæ*. To theſe may be added, the *meatus urinarius*, or orifice of the *urethra*. The *hymen* may be eſteemed the barrier between the external and internal parts.

That ſoft fatty prominence which is ſituated upon the *oſſa pubis*, extending towards the groins and *abdomen*, is called *mons veneris*. Its uſe ſeems to be merely that of preventing inconvenience or injury in the act of coition. If a line be drawn acroſs the anterior angle of the *pudendum*, all that part above it, which is covered with hair, may be called *mons veneris*; below it the *labia* commence, which being of a ſimilar, though looſer texture, appear like continuations of the *mons veneris*, paſſing on each ſide of the *pudendum*, which they chiefly compoſe. Proceeding downwards and backwards, the *labia* again unite, and the *perinæum* is formed.

All that ſpace between the poſterior angle of the *pudendum* and the *anus* is called the *perinæum*, the external covering of which is the ſkin, as the *vagina* is the internal, including between them cellular and adipoſe membrane, and the lower part of the *ſphincter ani*. The extent of the *perinæum* is generally about one inch and a half, though in ſome ſubjects it is not more than one, and in others exceeds two inches. The thin anterior edge is called the *frænum labiorum*.

Below the anterior angle of the *pudendum* the *clitoris* is placed, which riſes by two *crura* or branches, from the upper part of the *rami* of the *iſchia*. The external part of the *clitoris* is called the *glans*, which has a prepuce or thin covering, to which the *nymphæ* are joined. The *clitoris* is ſuppoſed to be the principal ſeat of pleaſure, and to be capable of ſome degree of erection, in the act of coition.

The *nymphæ* are two ſmall ſpongy bodies, or doublings of the ſkin, riſing from the extremities of the prepuce of the *clitoris*, and reſembling in their form the *labia*. They paſs on each ſide of the *pudendum*, within the *labia*, to about half its length, when they are gradually diminiſhed till they diſappear.

Immediately below the inferior edge of the *ſymphyſis* of the *oſſa pubis*, between the *nymphæ*, is the *meatus urinarius*, or termination of the *urethra*, which is about one inch and a half in length, and runs in a ſtraight direction along the internal ſurface of the *ſymphyſis*, to which and to the *vagina* it is connected by cellular membrane, to the bladder. On each ſide of the *meatus* are ſmall orifices, which diſcharge a mucus, for the purpoſe of preſerving the external parts from any injury, to which they might be liable from the acrimony of the urine.

There is a very great difference in the appearance of all theſe parts, eſpecially in thoſe who have had many children, and at various periods of life. In young women they are firm and vegete, but in the old, theſe, together with the internal parts, become flaccid and withered.

SECTION II.

THE external parts of generation are ſubject to many diſeaſes in common with the other parts of the body. They are alſo expoſed to ſome peculiar complaints, and to accidents at the time of parturition, of which we ought to be well informed, that we may by our care prevent them, or give ſuch relief as may be required when they are unavoidable.

The *labia* and *nymphæ*, as might be expected from their fatty and cellular texture, are liable to elongation, to excreſcences, and to ſchirrous tumours, which in ſome inſtances have grown to an enormous ſize.

It is not unuſual for one of the *labia* to be larger and more pendulous than the other; but the enlargement or elongation are not regarded as diſeaſes till ſome inconvenience is produced by them. The ſame obſervation may be made of excreſcences or ſchirrous tumours, which are therefore found to have acquired a conſiderable ſize before they are divulged.

In all the ſubordinate degrees of theſe complaints, when there is reaſon to think that they ariſe from ſome conſtitutional cauſe, relief may be given by ſuch medicines or treatment as will alter and amend the general health. Or if they are owing to any ſpecific cauſe, as the venereal diſeaſe, of which excreſcences in particular are a very frequent conſequence, mercurial medicines are to be uſed or given, till we are certain that the conſtitution is freed from the infection. Applications ſuitable to the ſtate they are in, are at the ſame time neceſſary, and of theſe there will be occaſion to uſe a variety, from the moſt emollient and ſoothing, which may be proper when the parts are in a very irritable or inflamed ſtate, to thoſe which have different degrees of eſcharotic qualities, when we preſume there is a chance of removing the excreſcences by ſuch means. But when complaints of this kind have been of long continuance, or when the parts have increaſed to ſuch a ſize as to hinder the common offices of life, there is but little reaſon to hope for their removal by any application, and the diſeaſed part muſt be extirpated with the knife; which operation may be performed with ſafety, and the faireſt proſpect of ſucceſs. As the blood-veſſels are few, and naturally ſmall in proportion to the ſize of the parts, there is not much danger of a hemorrhage, though, in ſome caſes, this is ſaid to have been alarming and extremely difficult to manage. But I have more than once ſeen the enlarged *nymphæ* and ſeveral excreſcences, of a conſiderable ſize, removed by the knife at the ſame time, yet the ſurgeon has not been under the neceſſity of tying a ſingle blood-veſſel.

Œdematoſe ſwellings of the external parts may occur, either in a general anaſarcous ſtate of the whole body, or when any cauſe produces a temporary preſſure upon thoſe veſſels which are intended to conduct the returning fluids from the inferior extremities, particularly the enlarged *uterus*, during pregnancy. Whatever may be the cauſe of theſe ſwellings, if they ſhould increaſe ſo as to become troubleſome, the method of giving relief is obvious and eaſy, as it conſiſts only in making a few ſlight ſcarifications in different parts of the *labia*, by which the ſtagnating fluids will be diſcharged, and the *labia* reduced to their natural ſize. It is not unuſual for theſe ſwellings to return two or three times towards the concluſion of pregnancy; in which caſe, or even in the time of labour, the ſcarifications may be repeated. A flannel wrung out of ſome emollient fomentation will contribute to the eaſy and perfect diſcharge of the fluids.

The coheſion of the *labia* to each other has been mentioned as a complaint occuring to adult women, eſpecially in hot climates, if inflammation, preventing the due ſecretion of the mucus, with which theſe parts are naturally clothed on their internal ſurface, ſhould take place, or if they ſhould be excoriated by any accidental cauſe, and neglected in that ſtate. The *labia* will alſo very frequently cohere in children, in ſuch a manner as to leave no veſtige of a paſſage into the *vagina*, except at the anterior part, for the diſcharge of the urine, and make us apprehend a defect in the organization of the parts. In ſuch caſes, we have been directed to ſeparate them with the knife, and how far ſuch an operation may be neceſſary in the adult, if the parts ſhould cohere either in conſequence of ſome new affection, or if a coheſion originating in infancy ſhould continue to adult age, muſt depend upon the judgment of the ſurgeon. But in infants ſuch an operation is neither requiſite or proper, becauſe a ſeparation may always be made by a firm and ſomewhat diſtracting preſſure upon each *labium* at the ſame time, which ſcarcely makes the child complain; though the ſmall veſſels which had inoſculated from one *labium* to the other, may be perceived to be dragged out during the continuance of the preſſure.

It is extraordinary that ſo little notice ſhould have been taken of a complaint which is very frequent in children, but it is probable that the conſtant and free uſe of their limbs, when they begin to walk, cauſes a ſeparation, otherwiſe the cohesion muſt often have occurred in adults, in whom the caſe is very rare. When a ſeparation of the cohering *labia* has been made in the manner before mentioned, a folded piece of linen, moiſtened in a weak ſolution of the *vitriolum album*, or ſome lightly aſtringent liquor, ſhould be applied every night when the child is put to reſt, to prevent the re-union, to which there is a great diſpoſition; and which will certainly take place if the *labia* are ſuffered to remain in contact.

In conſequence of violent inflammation from accidental or other cauſes, the *labia* become tumefied, and a large abſceſs is ſometimes formed. This is attended with extreme pain, the deſire of relieving which, has induced ſurgeons to open the abſceſs, and give vent to the matter as ſoon as it could be perceived to fluctuate. But though the pain may, for the preſent, be abated by the early diſcharge of the matter, the part continues indurated, is indiſpoſed to heal, and ſometimes becomes fiſtulous. But if the abſceſs is ſuffered to break of its own accord, the part has the kindeſt tendency to heal, and the cure is ſoon perfected. Should the pain be extreme during the ſuppuration, beſides the uſe of fomentations and cataplaſms, recourſe muſt be had to opiates.

Though the *perinæum* is not often affected with diſeaſes, it is ſubject to a laceration from the diſtention which it undergoes, when the head of the child is paſſing through the external parts. This laceration, which is moſt likely to happen with firſt children, though with rude treatment or neglect it may occur with ſubſequent ones, eſpecially in thoſe women who have the *perinæum* naturally ſhort, differs in direction and extent, and may be in every degree from the *frænum* or edge of the *perinæum*, to the extremity of the *ſphincter ani*, or even higher up into the *rectum*.

That ſome degree of laceration ſhould occur will not be ſurprizing, if we conſider the great change and violence which all theſe parts ſuſtain at the time when the head of the child is paſſing through them; or when a laceration begins, that it ſhould extend through a part ſpread extremely thin, and ſuffering an equal degree of force. When the *perinæum* is indiſpoſed to diſtend, or if when diſtended it cannot permit the head of the child to paſs with facility, the anterior part of the *rectum* is dragged out, and gives to the *perinæum* a temporary elongation. The true *perinæum*, and the temporary, as it may be called, thus forming an equal, uninterrupted ſpace, if a laceration ſhould commence at any part, it might extend through the whole. Of the method by which the laceration may be prevented, and of the treatment which may be proper when it has occurred, we ſhall ſpeak in other places. At preſent we ſhall enquire into the cauſes of an accident; the prevention of which, is the principal object of our attention in natural labours.

Though no means are uſed to prevent the laceration of the *perinæum* in quadrupeds at the time of parturition, it is remarkable that they are very rarely or never liable to it, except in thoſe caſes in which the neceſſity of their ſituation is ſuppoſed to require aſſiſtance; and this being given with ignorance and violence, may properly be eſteemed the cauſe of the accident. It is therefore reaſonable to preſume, that the frequent occurrence of this accident in the human ſpecies, allowing that it is in ſome caſes unavoidable, ought to be imputed to ſome accidental cauſe, or to error in conduct, rather than to any peculiarity in the conſtruction of the part, or in the circumſtances of their parturition. For, I believe, no obſervation is more generally true, than that of the exiſtence of a power in the ſtructure and conſtitution of animals, for overcoming all the difficulties to which they are, at the time of parturition, naturally ſubject; which power is exerted with a degree of energy proportionate to the difficulty.

The cauſes diſpoſing to, and capable of, producing a laceration of the *perinæum*, ſeem to be theſe

Firſt, The increaſed tenderneſs and delicacy of the ſkin. That this and every other part of the body may, by alteration from its natural ſtate, become more ſuſceptible of pain, and leſs able to bear violence of any kind, is clearly proved by the different degrees of thoſe properties, in parts of the body which are uſually clothed or uncovered.

Secondly, The poſition of women at the time of delivery. Women in this country, at the preſent time, are placed in bed upon their left ſide, with their knees drawn up towards the *abdomen*; which poſition, though convenient to the attendant, ſeems to occaſion a projection of the part of the child which preſents, in a line unfavourable to the *perinæum*. But if they were placed upon their hands and knees, which is a poſition inſtinctively ſought for, and often recommended in caſes of difficulty and diſtreſs, and perhaps the moſt natural, then the head or part preſenting would, by its gravitation, leſſen the preſſure upon the *perinæum*, and of courſe the hazard of its laceration.

Thirdly, The diſturbance of the order of a labour. Every change which is made in the parts at the time of labour is ſucceſſive, and every pain ſeems to produce two effects; it dilates one part, and gives ſome other part a diſpoſition to be dilated. If therefore by hurry, or imprudent management, the head of the child, in its paſſage through the *pelvis*, is brought into contact with parts which have not yet acquired their diſpoſition to dilate, or if by artificial dilatation we attempt to ſupply the want of the natural, the parts will ſooner be lacerated than diſtended.

Fourthly, When animals bring forth their young, the effort to expel is inſtinctive, no part of the force being voluntary. Women, on the contrary, either from erroneous opinions, or from falſe inſtructions, exert a conſiderable degree of voluntary force, with the hope and intention of finiſhing their labours ſpeedily. If we ſuppoſe that the *perinæum* is able to bear all the force inſtinctively exerted without injury, but no greater, then the whole voluntary force, will, in proportion to its degree, induce the danger of a laceration, unleſs its effect is counteracted by ſome adventitious help. On this principle it is uſual to ſupport the *perinæum*, not with the view of altering the direction of the head of the child, but to retard its paſſage through the external parts. For the *perinæum* is not torn becauſe the head of the child is large, or paſſes in any particular direction, but becauſe it paſſes too ſpeedily, or preſſes too violently upon the parts, before they have acquired their dilatability; it therefore very rarely happens that the *perinæum* is lacerated in difficult labours.

That kind of laceration of the *perinæum*, which commences at the anterior edge, and runs obliquely or directly backwards, is alluded to in every diſſertation upon this ſubject. But there have been inſtances of another kind, which may be called a burſting or perforation of the *perinæum*, at that part which is connected with the circumference of the *anus*, when the anterior part is preſerved. In a caſe which occured in my own practice, I was ſenſible of the laceration before the expulſion of the head, which I guided through the natural paſſage, ſupplying the want of the *perinæum* with the palm of my hand. The external parts were, in this patient, extremely rigid and contracted; and as I applied myſelf with great aſſiduity to preſerve them, I imputed the accident to this circumſtance, rather than to the neceſſity of the caſe. She did not make any unuſual complaint immediately after delivery; but on the following day, there was a violent inflammation of the parts, with a ſuppreſſion of urine, and the *lochia* were diſcharged through the ruptured part, though no *fæces* ever came by the *vagina*. By the uſe of fomentations and cataplaſms, of cooling laxative medicines, and occaſionally of opiates, the inflammation was ſoon abated. The ſuppuration being profuſe, the bark was given, and at the end of ten weeks the lacerated parts were healed. No particular examination was ever made during the cure, and none but ſuperficial dreſſings applied. When I attended this patient with her ſecond child, I obſerved a large round cicatrice at the rugous part of the *anus*, but ſhe ſuffered no inconvenience from it, and recovered as well as if no ſuch accident had formerly happened.

The *clitoris* is little concerned in the practice of midwifery, on account of its ſize and ſituation. It is ſometimes elongated and enlarged in ſuch a manner as to equal the *penis*, being one of thoſe many peculiarities which is ſuppoſed to conſtitute an hermaphrodite, or an animal partaking of the ſexual properties of the male and female; but the term is in this caſe improperly uſed.

Should the *clitoris* increaſe to ſuch a ſize as to occaſion much inconvenience, it may be extirpated either with the knife or ligature; but if the cauſe of the enlargement, which is commonly aſſigned, be true, it is probable that no motive of delicacy or inconvenience will be a ſufficient inducement to ſuffer the pain of extirpation.

The bladder and *urethra* in women are liable to fewer diſeaſes than the ſame parts in men, becauſe their conſtruction is more ſimple, and their uſe wholly confined to the reception and conveyance of the urine. Women have, nevertheleſs, a ſtone ſometimes formed in the bladder, and it has been thought an improvement in practice to evade the operation of lithotomy, by diſtending with bougies, gradually enlarged, the *urethra*, till it is of ſufficient dimenſions to allow a ſtone to paſs through it. It is proved, by experience, that the *urethra* may be ſufficiently diſtended to allow a ſmall ſtone to paſs; but if the diſtention be carried beyond a certain degree, the tone of the part will be deſtroyed, and the patient ever remain ſubject to an involuntary diſcharge of urine, which is a greater evil than any conſequent to lithotomy.

In the courſe of the *urethra*, and about the *meatus urinarius*, excreſcences ſometimes grow which produce ſymptoms equally troubleſome, and ſimilar to thoſe which are cauſed by the ſtone in the bladder. Theſe may be extirpated by the knife, by ligature, by cauſtic applications, or by wearing bougies, according to their ſize, or the part where they grow, which may render one more covenient or preferable to the reſt.

The *pruritus*, or itching of the external parts, is a complaint to which women are liable at any period of life, but it is moſt frequently attendant on the ſtate of pregnancy, of which it is one of the moſt troubleſome conſequences. If it affects the internal parts, or is exceſſive in its degree, it is ſaid to terminate in the *furor uterinus.* It is ſometimes occaſioned by a diſeaſe or affection of the bladder, and is then equivalent to the itching of the *glans penis* in men; but it more commonly proceeds from ſome affection of the *uterus*, having moſt frequently obſerved it to occur in pregnancy, eſpecially when the child was dead, or at the time of the final ceſſation of the *menſes.*

The means uſed for the relief of the patient muſt depend upon the ſeat, the cauſe, and the degree of the complaint. When it happens during pregnancy, and at all other times, if attended with inflammation, it is neceſſary to bleed, to give gently laxative medicines, and to uſe ſedative applications, of which perhaps the beſt is a weak ſolution of *ſaccharum ſaturni*, as a lotion; or a decoction of poppy heads, with a ſmall quantity of *ſaccharum ſaturni* diſſolved in it, as a fomentation More active applications are often preſcribed; but I have ſuſpected that theſe, in many caſes, rather aggravate than abate the complaint. If the patient be pregnant, the attempt to cure it will be vain, and we muſt be ſatisfied with moderating it till ſhe is delivered, when it will ceaſe ſpontaneouſly. When this diſeaſe originates from the *uterus*, ſuch medicines muſt be uſed as promiſe relief to the *uterus*; and I have frequently given five grains of Plummer's pill every night at bed-time, and a pint of a ſtrong decoction of *ſarſaparilla* every day for a month with advantage, though there was no reaſon to ſuſpect any venereal infection, of which the itching is, I believe, a very unuſual ſympton. But when it is cauſed by a diſeaſe of the bladder, the conſtant or daily uſe of a bougie in the *urethra* has, in ſome caſes, effectually cured the patient.

SECTION III.

THE *hymen* is a thin membrane of a ſemilunar or circular form, placed at the entrance of the *vagina*, which it partly cloſes. It has a very different appearance in different women, but it is generally, if not always, found in virgins, and is very properly eſteemed the teſt of virginity, being ruptured in the firſt act of coition, and the remnants of the *hymen* are called the *carunculæ myrtiformes*. The *hymen* is alſo peculiar to the human ſpecies; from which circumſtance a moral writer might draw inferences favourable to the eſtimation of chaſtity in women.

There are two circumſtances relating to the *hymen* which require medical aſſiſtance. It is ſometimes of ſuch a ſtrong ligamentous texture, that it cannot be ruptured, and prevents the connexion between the ſexes. It is alſo ſometimes imperforated, and wholly cloſes the entrance into the *vagina*; but both theſe caſes are extremely rare.

If the *hymen* be of an unnaturally firm texture, but perforated, the inconveniencies thence ariſing will not be diſcovered before the time of marriage, when they may be removed by a crucial inciſion made through it, taking care not to injure the adjoining parts.

But the imperforation of the *hymen* will produce its inconveniencies, when the perſon begins to menſtruate. For the menſtruous blood being ſecreted from the *uterus* at each period, and not evacuated, the patient ſuffers much pain from the diſtention of the parts, many ſtrange ſymptoms and appearances are occaſioned, and ſuſpicions prejudicial to her reputation are entertained. In a caſe of this kind, for which I was conſulted, the young woman, who was twenty-two years of age, having many uterine complaints, with the *abdomen* enlarged, was ſuſpected to be pregnant, though ſhe perſevered in aſſerting the contrary, and had never menſtruated. When ſhe was prevailed upon to ſubmit to an examination, the circumſcribed tumour of the *uterus* was found to reach as high as the navel, and the external parts were ſtretched by a round ſoft ſubſtance at the entrance of the *vagina*, in ſuch a manner as to reſemble that appearance which they have when the head of a child is paſſing through them; but there was no entrance into the *vagina*. On the following morning an inciſion was carefully made through the *hymen*, which had a fleſhy appearance, and was thickened in proportion to its diſtention. Not leſs than four pounds of blood, of the colour and conſiſtence of tar, were diſcharged, and the tumefaction of the *abdomen* was immediately removed. Several ſtellated inciſions were afterwards made through the divided edges, and care was taken to prevent a re-union of the *hymen* till the next period of menſtruation, after which ſhe ſuffered no inconvenience. The blood diſcharged was not putrid or coagulated, and ſeemed to have undergone no other change, after its ſecretion, but what was occaſioned by the abſorption of its more fluid parts.

The *carunculæ myrtiformes*, by their elongation and enlargement, ſometimes become very painful and troubleſome. Under ſuch circumſtances they may be managed, or extirpated, if requiſite, in the ſame manner as the diſeaſed *nymphæ*.

SECTION IV.

On the internal Parts of Generation.

THE internal parts of generation are the *vagina*, the *uterus*, the *fallopian* tubes, and the *ovaria*. The ligaments may be eſteemed appendages to the *uterus*.

That canal which leads from the *pudendum*, or external orifice, to the *uterus*, is called the *vagina*. It is ſomewhat of a conical form, with the narroweſt part downwards, and is deſcribed as being five or ſix inches in length, and about two in diameter. But it would be more proper to ſay, that it is capable of being enlarged to thoſe dimenſions; for in its uſual ſtate, the *os uteri* is ſeldom found to be more than two inches from the external orifice.

The *vagina* is compoſed of three coats, the firſt, or innermoſt of which, is villous, interſperſed with many excretory ducts, and contracted into *plicæ*, or ſmall tranſverſe folds, particularly at the fore and back part, but by child-bearing theſe are obliterated. The ſecond coat is compoſed of muſcular fibres and minute blood-veſſels; and the third, or outer coat, is from the cellular membrane, by which it is connected to the adjoining parts.

The entrance of the *vagina* is conſtricted by muſcular fibres, originating from the *rami* of the *pubis*, which run on each ſide of the *pudendum*, ſurrounding the poſterior part, and executing an equivalent office, though they cannot be ſaid to form a true *ſphincter*.

The upper part of the *vagina* is connected to the circumference of the *os uteri*, but not in a ſtraight line ſo as to render the cavity of the *uterus* a continuation of that of the *vagina*; for the latter ſtretches beyond the former, and being joined to the *cervix*, is reflected over the *os uteri*, which, by this mode of union, is ſuſpended with protuberant lips in the *vagina*, and permitted to change its poſition in various ways and directions.

The form of the *uterus* reſembles that of an oblong pear, flattened, with the depreſſed ſides placed towards the *pubis* and *ſacrum*; but in the impregnated ſtate it becomes more oval, according to the degree of its diſtention.

For the convenience of deſcription, and for ſome practical purpoſes, the *uterus* is diſtinguiſhed into three parts; the *fundus*, body, and *cervix*. The upper part is called the *fundus*, the lower, the *cervix*, and the ſpace between them, which is undefined, the body. The *uterus* is about three inches in length, about two in breadth at the *fundus*, and one at the *cervix*. Its thickneſs is different at the *fundus* and *cervix*, being at the former rather leſs than half an inch, and at the latter ſomewhat more; and this thickneſs is preſerved throughout pregnancy, chiefly by the enlargement of the veins and lymphatics, there being little comparative alteration in the ſize of the arteries. But there is ſuch variety in the *uterus* in different women, independent of the ſtates of virginity, or marriage, or pregnancy, as to prevent any very accurate menſuration.

The cavity of the *uterus* correſponds with the external form. That of the *cervix* leads from the *os uteri*, where it is very ſmall, in a ſtraight direction, though a little wider in the middle, to the *fundus*, where it is expanded into a triangular form, with two of the angles oppoſed to the entrance into the fallopian tubes. There is a ſwell, or fullneſs of all the parts, towards the cavity, which is ſometimes diſtinguiſhed by a prominent line running through its middle.

The villous coat of the *vagina* is continued over the *os uteri*, and lines the cavity of the *uterus*. The internal ſurface of the *uterus* is corrugated in a beautiful manner, but the *rugæ*, which are longitudinal, leſſen as they advance into the *uterus*, the *fundus* of which is ſmooth.

In the intervals between the *rugæ* are ſmall orifices, like thoſe in the *vagina*, which diſcharge a mucus, ſerving, beſides other purpoſes, that of cloſing the *os uteri* very curiouſly and perfectly during pregnancy.

The ſubſtance of the *uterus*, which is very firm, is compoſed of arteries, veins, lymphatics, nerves, and muſcular fibres, curiouſly interwoven and connected together by cellular membrane. To theſe, according to ſome anatomiſts, are to be added glands, ligamentous and parenchymatous ſubſtances.

The arteries of the *uterus* are the ſpermatic and hypogaſtric.

The ſpermatic arteries ariſe from the anterior part of the *aorta*, a little below the emulgents, and ſometimes from the emulgents. They paſs over the *pſoas* muſcles, behind the *peritonæum*, enter between the two *laminæ*, or duplicatures of the *peritonæum*, which form the broad ligaments of the *uterus*, proceed to the *uterus*, near the *fundus* of which they inſinuate themſelves, giving branches in their paſſage to the *ovaria* and fallopian tubes.

The hypogaſtric arteries ariſe from the internal iliacs, and paſſing down the inſide of the *pelvis*, divide into three branches, the anterior of which retains the name of hypogaſtric, the middle is called the *pudica interna*, and the third the *ſciatica*.

The

The firſt is the remnant of the umbilical artery, and is reflected over the ſide of the bladder, where it ſoon becomes impervious; the ſecond goes from the ſides of the *pelvis* to the edges of the *uterus*, which it enters at the upper part of the *cervix*, and then penetrating the ſubſtance of the *uterus*, divides into two branches, the ſmalleſt of which runs along the *os uteri* to the *vagina*; but the larger paſſes with many convolutions to the upper part of the *uterus*, where its branches anaſtomoſe with thoſe of the ſpermatic artery. The hypogaſtrics in their paſſages to the *uterus* detach branches to the bladder and adjoining parts.

The veins which reconduct the blood from the *uterus* are very numerous, and their ſize in the unimpregnated ſtate correſponds to that of the arteries; but their enlargment during pregnancy is ſuch, that the orifices of ſome of them when divided will admit of a quill, or the end of a ſmall finger. The veins anaſtomoſe in the manner of the arteries, which they accompany out of the *uterus*, and then having the ſame names with the arteries, ſpermatic and hypogaſtric, the former proceeds to the *vena cava* on the right ſide, and on the left to the emulgent vein; and the latter to the internal iliacs.

From the ſubſtance and ſurfaces of the *uterus* an infinite number of lymphatics ariſe, which following

ing the track of the blood-veſſels, paſs to the glands lying in an angle made by the departure of the emulgents from the trunk of the deſcending *aorta*.

The *uterus* is ſupplied with nerves from the lower meſocolic *plexus*, and from thoſe which paſs through the perforations of the *ſacrum*, which alſo ſend large branches to the bladder and *rectum*. The *ovaria* receive a few ſmall branches of nerves through the broad ligaments, but their principal ones are from the renal *plexus*. By the great number of nerves theſe parts are rendered extremely irritable; but it is by thoſe branches which the *uterus* receives from the intercoſtal, that the intimate conſent between it and various other parts is chiefly preſerved.

The muſcular fibres of the *uterus* have been deſcribed in a very different manner by anatomiſts, ſome of whom have aſſerted that its ſubſtance was chiefly muſcular, whilſt others have contended that there were no muſcular fibres whatever in the *uterus*. In the unimpregnated *uterus*, when boiled for the purpoſe of a more perfect examination, the former ſeems to be a true repreſentation. When the *uterus* is diſtended towards the latter part of pregnancy, theſe fibres are very thinly ſcattered, but they may be diſcovered in a circular direction about the *cervix*, and ſurrounding the entrance of each fallopian tube. Yet it does not ſeem reaſonable to attribute the extraordinary action of the *uterus* at the time of labour to its muſcular fibres only, if we are to judge of the power of a muſcle by the number of fibres of which it is compoſed, unleſs it is preſumed that thoſe of the *uterus* are ſtronger than in common muſcles.

With reſpect to the glands of the *uterus*, theſe are not diſcoverable in its natural ſtate; but from the number of lymphatics which proceed from it, and from its appearance in a morbid ſtate, there can be little doubt of their exiſtence. By the term *parenchyma* has been underſtood a ſpongy ſubſtance of a ſofter and leſs vaſcular texture than the other conſtituent parts of any of the *viſcera*, and of this there is ſaid to be a certain portion in the *uterus*: but modern anatomiſts do not allow it, or that there is any diſtinct ligamentous ſubſtance to be found in the ſtructure of the *uterus*. On this and many other occaſions one has to lament the want of preciſion in the terms uſed for the explanation of the ſame ideas, from which much confuſion has ariſen, and many diſputes have been carried on with unpardonable acrimony; not in the vindication of truth, but in the ſupport of words.

From the angles at the *fundus* of the *uterus* two proceſſes, of an irregularly round form, originate, called the *fallopian* tubes, which are evidently continuations of the ſubſtance of the *uterus*, but ſomewhat thinner. They are about three inches in length, and becoming ſmaller in their progreſs from the *uterus*, have an uneven, fringed termination, called the *fimbriæ*. The canal which paſſes through theſe tubes is extremely ſmall at their origin, but it is gradually enlarged, and terminates with a patulous orifice, the diameter of which is about one third of an inch, ſurrounded by the *fimbriæ*. Through this canal the communication between the *uterus* and *ovaria* is preſerved. The *fallopian* tubes are wrapped in duplicatures of the *peritonæum*, which are called the broad ligaments of the *uterus*, but a portion of their extremities thus folded hangs looſe on each ſide of the *pelvis*.

The *ovaria* are two flat oval bodies, about one inch in length, and rather more than half in breadth and thickneſs, ſuſpended in the broad ligaments, at about the diſtance of one inch from the *uterus*, behind, and a little below the *fallopian* tubes.

To the *ovaria*, according to the idea of their ſtructure entertained by different anatomiſts, various uſes have been aſſigned, or the purpoſe they anſwer has been differently explained. Some have ſuppoſed that their texture was glandular, and that they ſecreted a fluid equivalent to and ſimilar to the male *ſemen*; but others, who have examined them with more care, aſſert that they are *ovaria* in the literal acceptation of the term, and include a number of veſicles or *ova*, to the amount of twenty-two of different ſizes, joined to the interal ſurface of the *ovaria* by cellular threads or pedicles, and that they contain a fluid which has the appearance of thin lymph. All have agreed that the *ovaria* prepare whatever the female ſupplies towards the formation of the *fœtus*, and it is proved by the operation of ſpaying, which conſiſts in the extirpation of the *ovaria*; for the animal not only loſes the power of conceiving, but deſire is for ever extinguiſhed.

The outer coat of the *ovaria* is given by the *peritonæum*, and whenever an *ovum* has paſſed into the *fallopian* tube, a fiſſure may be obſerved at the part through which it is ſuppoſed to have been transferred. Theſe fiſſures healing, leave ſmall longitudinal cicatrices on the ſurface, which are ſaid to enable us to determine whenever the *ovarium* is examined, the number of times a woman has conceived.

The *corpora lutea* are oblong glandular bodies of a yellowiſh colour, found in the *ovaria* of all animals when pregnant, and according to ſome when they are ſalacious. They are ſaid to be the *calyces* from which the impregnated *ovum* has dropped, and their number is always in proportion to the number of conceptions found in the *uterus*. They are largeſt and moſt conſpicuous in the early

ſtate

ſtate of pregnancy, and remain for ſome time after delivery, when they gradually fade and wither till they diſappear. The *corpora lutea* are extremely vaſcular, except at their centre, which is whitiſh, and in the middle of the white part is a ſmall cavity, from which the impregnated *ovum* is thought to have proceeded.

From each lateral angle of the *uterus*, a little before and below the *fallopian* tubes, the round ligaments ariſe, which are compoſed of arteries, veins, lymphatics and nerves, arranged in a very curious manner, connected by cellular membrane, and much enlarged during pregnancy. They receive their outward covering from the *peritonæum*, and paſs out of the *pelvis* through the rings of the abdominal muſcles to the groin, where the veſſels ſubdivide into ſmall branches, and terminate at the *mons veneris* and contiguous parts. From the inſertion of theſe ligaments into the groin, the reaſon appears why that part generally ſuffers in all the diſeaſes and affections of the *uterus*, and why the inguinal glands are in women ſo often found in a morbid or enlarged ſtate.

The duplicatures of the *peritonæum*, in which the *fallopian* tubes and *ovaria* are involved, are called the broad ligaments of the *uterus*. Theſe prevent the entanglement of the parts, and are conductors of the veſſels and nerves, as the meſentery is of thoſe of the inteſtines. Both the round and broad ligaments alter their poſition during pregnancy, and they are ſuppoſed to prevent the deſcent of the *uterus*, and to regulate its direction when it aſcends into the cavity of the *abdomen*.

SECTION V.

THE diſeaſes of the internal parts of generation will be beſt underſtood if they are deſcribed in the order obſerved in the deſcription of the parts.

The diſeaſes of the *vagina* are, firſt, ſuch an abbreviation and contraction as renders it unfit for the uſes for which it was deſigned; ſecondly, a coheſion of the ſides in conſequence of preceding ulceration; thirdly, cicatrices, after an ulceration of the parts; fourthly, excreſcences; fifthly, *fluor albus*.

The abbreviation and contraction of the *vagina*, which uſually accompany each other, are produced by original formation, and they are diſcovered at the time of marriage, the conſummation of which they prevent. The curative intentions are, to relax the parts by the uſe of emollient applications, and to dilate them to their proper ſize by ſponge, or other tents gradually enlarged. But the circumſtances which attend, are ſometimes ſuch as might lead us to form an erroneous opinion of the diſeaſe. A caſe of this kind which was under my care, from the ſtrangury, from the heat of the parts, the profuſe and inflammatory diſcharge, was ſuſpected to proceed from venereal infection, and the patient had been put upon a courſe of mercurial medicines for ſeveral weeks without relief. When ſhe applied to me, I prevailed upon her to ſubmit to an examination, and found the *vagina* rigid, and ſo much contracted as not to exceed half an inch in diameter, and not more than one inch and a half in length. The repeated, though fruitleſs, attempts which had been made to complete the act of coition, had occaſioned a conſiderable inflammation upon the parts, and all the ſuſpicious appearances beforementioned. To remove the inflammation, ſhe was bled, took ſome gently purgative medicines, uſed an emollient fomentation, and afterwards ſome unctuous applications; ſhe was alſo adviſed to live ſeparate from her huſband for ſome time. The inflammation being gone, tents of various ſizes were introduced into the *vagina*, by which it was diſtended, though not very amply. She then returned to her huſband, and in a few months became pregnant. Her labour, though ſlow, was not attended with any extraordinary difficulty, and ſhe was delivered of a healthy child.

By the violence or long continuance of a labour, or by the negligent and improper uſe of inſtruments, an inflammation of the external parts, or *vagina*, is ſometimes produced in ſuch a degree as to endanger a mortification. By careful management, this conſequence is uſually prevented; but in ſome caſes, when the conſtitution of the patient was prone to diſeaſe, the external parts have ſloughed away, and in others equal injury has been done to the *vagina*. But the effect of the inflammation is confined to the internal or villous coat, which is caſt off wholly or partially. An ulcerated ſurface being thus left, when the diſpoſition to heal has taken place, cicatrices are formed of different ~~bands~~, according to the depth and extent of the ulceration; and there being no counteraction to the contractile ſtate of the parts, the dimenſions of the *vagina* become much reduced. Or if the ulceration ſhould not be healed, and the contractibility of the parts continue to operate, the ulcerated ſurfaces being brought together, may cohere, and the canal of the *vagina* be perfectly cloſed. By proper attention at the time of healing, this complaint might be prevented or leſſened, and as it differs in degree and ſituation, the inconveniences thence ariſing will vary in importance, and admit of relief with greater or leſs difficulty.

Cicatrices in the *vagina* very ſeldom become an impediment to the connexion between the ſexes; when they do, the ſame kind of aſſiſtance is required as was recommended in the natural contraction or abbreviation of the part; and, I believe, they always give way to the preſſure of the head of the child in the time of labour, though in many caſes with great difficulty. Sometimes the appearances may miſlead the judgment, for I was lately called to a woman in labour who was thought to have become pregnant, the *hymen* remaining unbroken. But on making very particular enquiry, I diſcovered that this was her ſecond labour, and that the part which we ſuppoſed to be the *hymen*, with a ſmall aperture from its form and ſituation, was a cicatrice, or unnatural contraction of the entrance into the *vagina*, conſequent to an ulceration of the part after her former labour.

When the ſides of the *vagina* cohere together, it may be requiſite to ſeparate them with the knife; and when they are in a healing ſtate, their re-union may be prevented by tents, or by a leaden canula of a proper ſize, introduced into and worn in the *vagina*. But if the coheſion has taken place far up in the *vagina*, the knife muſt be uſed with the utmoſt circumſpection, or irreparable injury may be done to the bladder, *rectum*, or ſome adjoining part. A patient who applied to me for relief in this complaint, and in whom the menſtruous blood was ſecreted, though it could not be diſcharged, was adviſed to defer any operation; as I preſumed the menſtruous blood, at ſome future time, would protrude the cohering part in ſuch a manner as to render the operation more ſecure, effectual, and eaſy.

Fungous excreſcences ariſing from any part of the *vagina* or *uterus*, are diſtinguiſhed by the general term *polypus*. Theſe are of different ſizes, and may ſprout from any part of the cavity of the *uterus*, and perpend in the *vagina*; or from the *os uteri*, or from the *vagina*. The texture of the excreſcences is alſo very different, being in ſome caſes firm and fleſhy, and in others fungous and almoſt as ſoft as coagulated blood; ſome of them hang by a ſmall pedicle, and others have a broad baſis.

The cauſe of the *polypus* may be ſome accidental injury done to the part at the time of labour, or a ſpontaneous diſeaſe of the part itſelf, or of the conſtitution. Thoſe which are of a ſmall ſize are no impediment to conception or parturition, at leaſt if they originate from the *os uteri* or *vagina.*

In the firſt ſtage, the *polypus* may be accompanied with all thoſe ſymptoms which proceed from uterine irritation, and in its progreſs, with a mucous, ſanious, and afterwards a ſanguineous diſcharge; by which, and the conſtant pain, the patient is reduced to extreme weakneſs, and if relief is not given, ſhe may periſh from the mere loſs of ſtrength.

The *polypus* may be extirpated by ligature or exciſion; but the former is the preferable method, and the ligature is to be uſed in a ſimilar manner, and upon the ſame principle, as in the extirpation of naſal *polypi.* The difficulty lies in the proper application of the ligature, and this depends upon the diſtance of the part to be tied from the external orifice, and the breadth of the baſis of the *polypus.* If the circumſtances of the caſe will admit of delay, the operation will be rendered more eaſy, as the tumour will deſcend lower, and the pedicle become longer and thinner. When the ligature is fixed, it muſt be drawn gradually tighter every day till the excreſcence drops off, which uſually happens in four or five days, though the time will depend upon the firmneſs and thickneſs of the pedicle of the *polypus*. It ſhould be a general rule not to paſs a ligature for the extirpation of a *polypus*, unleſs we can feel the pedicle by which it grows, or we may be in danger of tying a part we did not intend; and we muſt carefully diſtinguiſh the *polypus* from an inverted *uterus*. Should the baſe of the *polypus* be larger, or as large as the excreſcence, the ligature cannot be fixed in the uſual manner, for it will either ſlide over it, or take a partial hold of the *polypus*. Such caſes have uſually a cancerous or ſchirrous diſpoſition.

The *polypus* has ſometimes terminated favourably without aſſiſtance, or with aſſiſtance of a different kind. After a long continuance of the diſeaſe, which has not been ſuſpected, or miſtaken for ſome other, the tumour has preſſed through the *vagina* and external orifice, and the pedicle being too weak to ſuſtain its weight, it has decayed and dropped away. Or, when the tumour has puſhed through the external orifice, a ligature has been fixed round the pedicle, and the *polypus* has been perfectly and eaſily extirpated.

A mucous, ichorous, or ſanious diſcharge from the *vagina* or *uterus*, is called the *fluor albus*. Theſe diſcharges are various in their degrees as in their kinds, from a ſimple increaſe of the natural *mucus* of the part, to that which is of the moſt acrimonious quality; but the firſt is not eſteemed a diſeaſe, unleſs it is exceſſive in its degree. It is the moſt frequent diſeaſe to which women are liable, and is by them ſuſpected to be the cauſe of every complaint which they may at the ſame time ſuffer; but it is generally a ſymptom of ſome local diſeaſe, or a conſequence of great debility of the conſtitution, though, when profuſe, it becomes a cauſe of greater weakneſs. In many caſes the *fluor albus* is an indication of a diſpoſition to diſeaſe in the *uterus*, or parts connected with it, eſpecially when it is copious in quantity, or acrimonious in quality, about the time of the final ceſſation of the *menſes.*

The ſymptoms attending the *fluor albus*, whether it be an original diſeaſe, or a ſymptom of other diſeaſes, are very ſimilar. The complection is of a pale, yellowiſh colour, the appetite is depraved, there is invariably a pain and ſenſe of weakneſs in the back and loins, the patient has conſtantly a feveriſh diſpoſition, with a waſting of the fleſh and reduction of the ſtrength, and ultimately becomes hectic or leucophlegmatic.

The method of relieving or curing the *fluor albus* muſt depend upon its cauſe, whether the diſcharge proceeds from the *uterus* or *vagina.* When it is occaſioned by general weakneſs of the conſtitution, all thoſe medicines which are claſſed under the general term of corroborants or tonics, eſpecially bark and chalybeates, may be given, under a variety of forms, with great advantage. But their effect is not immediate; and previouſly to their uſe, it will be proper and neceſſary that the patient ſhould take ſome mild purgatives, and in all caſes where there is any feveriſh diſpoſition, ſhe ought to loſe ſome blood. Balſamic and agglutinating medicines of every kind are alſo frequently preſcribed, but without much benefit. In ſome caſes mercurial medicines have been given with advantage, when there was no ſuſpicion of any venereal infection. Gentle emetics have been recommended, and are ſuppoſed to be of ſingular uſe, not only by cleanſing the *primæ viæ*, or by making a revulſion of the humours from the inferior parts, but by exciting the powers of the conſtitution to more vigorous action. Cold bathing, partial or general, particularly in the ſea, has often been of eminent ſervice. In this, and all ſimilar complaints, good air, moderate exerciſe, nouriſhing and plain diet, and a regular manner of living, will of courſe be adviſed.

When there is reaſon to think that the complaint is local, and ariſes from the relaxation of thoſe orifices by which a neceſſary *mucus* is diſcharged on particular occaſions; or if the diſcharge ſhould continue after an amendment of the conſtitution, injections of various kinds may be uſed; but the ſafeſt and beſt are thoſe which are compoſed from aſtringent vegetables, or weak ſolutions of *ſaccharum ſaturni* or *vitriolum album*, and though they cannot well be expected to produce an abſolute cure, they ſeldom fail to afford temporary benefit, which is a great comfort to the patient.

SECTION VI.

THE *uterus* is liable to many diſeaſes, and being a part with which the whole body is readily drawn into conſent, there is ſcarce a diſeaſe, under which women have at any time laboured, but what has been attributed to its influence. Yet it is not proved that there is any eſſential difference in thoſe diſeaſes of women to which men are equally ſubject, though there is ſome variety in the ſymptoms. We ſhall confine our attention to the moſt obvious diſeaſes of the *uterus*, and begin with the *prolapſus* or *procidentia*, which very frequently occurs.

By the *prolapſus* is meant a ſubſidence or deſcent of the *uterus* into the *vagina*, lower than its natural ſituation, and it is termed a *procidentia* when the *uterus* is puſhed through the external orifice of the *pudendum*. This ſometimes happens to ſuch a degree as to put on the appearance of a tumour growing from the external parts, depending very low between the thighs, cauſing great pain and uneaſineſs, and rendering the patient unable to perform the common offices of life. A moderate ſhare of circumſpection will enable us to diſtinguiſh the *procidentia* of the *uterus* from its inverſion, and from all reſembling diſeaſes.

There are many cauſes of the *prolapſus* or *procidentia* of the *uterus*, as long ſtanding during the time of pregnancy, carrying heavy burdens, and all ſudden and violent exertions of the body, whence they moſt frequently happen to women in the lower ranks of life. They may be occaſioned by the circumſtances of a labour, as the deſcent of the *os uteri* into the *pelvis*, before it is dilated, by the prepoſterous efforts of the woman in an erect poſition, by the rude and haſty extraction of the *placenta*, and by riſing too early after delivery. They may alſo be produced by mere relaxation of the parts, as unmarried women are ſometimes ſubject to them, though leſs frequently than thoſe who have had children. By the knowledge of the cauſes of theſe complaints we are led to their prevention and cure; and it is worthy of obſervation, that when a *prolapſus* or *procidentia* has been occaſioned by the circumſtances of one labour, they may be relieved or perfectly cured by care and long confinement in an horizontal poſition after the next. When women who have a *prolapſus* are pregnant, the inconveniences are increaſed in the early part of pregnancy, becauſe the *uterus*, being enlarged, ſinks lower than uſual into the *vagina*; but in the latter part they are leſſened, as it is then ſupported above the brim of the *pelvis*. But when the *pelvis* is very capacious, and the parts much relaxed, the lower part of the *uterus*, including the head of the child, has in ſome caſes been puſhed through the external orifice, before the *os uteri* was dilated.

The *procidentia* is not, properly ſpeaking, a diſeaſe of the *uterus*, but a change of its poſition, cauſed by the relaxation or weakneſs of thoſe parts to which it is connected, and by which it ſhould be ſupported. It accordingly moſt commonly happens, that the firſt tendency to it is diſcovered by the protruſion or fullneſs of the anterior part of the *vagina*, and ſometimes alſo the poſterior part of the *vagina* becomes tumid, forming a kind of pouch, and this is in ſome caſes where there is no deſcent of the *uterus*. But in the principal degrees of the *procidentia*, the poſition of the *uterus* and *vagina* is not only very much altered, but that of all the contiguous parts, eſpecially the bladder.

The intentions in the cure of the *procidentia* are, to reſtore the *uterus* to its proper ſituation, and to retain or ſupport it when replaced.

The reduction of the parts to their ſituation is not uſually attended with much difficulty, even in the worſt degrees of this complaint. In ſome caſes, however, it is neceſſary by bleeding, gentle purgative medicines, and emollient fomentations, to leſſen the inflammation and tumefaction; and when the *procidentia* or *prolapſus* occur ſoon after delivery, ſuch means can only be uſed with propriety, as the parts are often in too irritable and tender a ſtate to bear any other without miſchief. When the parts are replaced, it will ſometimes be proper to uſe local aſtringent applications in the form of a lotion or fomentation, conducted into the *vagina* by means of a ſyringe or ſponge. But theſe will generally fail to anſwer our intention fully, and we ſhall be obliged to have recourſe to peſſaries, of which many have been contrived of various forms and ſubſtances.

The intention in the uſe of peſſaries is to ſupport the *uterus* in its ſituation, without injuring it or the adjoining parts; but certainly the kinds now in common uſe are ill calculated for one or both theſe purpoſes, as they can neither be introduced or worn without inconvenience, and often fail to anſwer our intention. They are generally made of box or ebony wood, or of cork covered with wax; by ſome the circular form is preferred, by others, the oval, whilſt others are perſuaded that globular ones are the beſt. Some dexterity and judgment are required in their introduction; for if they are too ſmall they will not remain in the *vagina*, and if too large, they inflame and ulcerate the parts, cauſing the ſtrangury, obſtinate coſtiveneſs, and many other painful ſymptoms. The ſize of thoſe firſt uſed ſhould be ſufficiently large, and they may be gradually diminiſhed till they are no longer neceſſary. When a peſſary has been introduced, it is requiſite that the patient ſhould, for ſome time, be kept quiet and in an horizontal poſition, by which the preſent inconveniencies will be leſſened, and the good we expect to be derived from it will be increaſed.

Peſſaries when introduced are chiefly ſupported by the *perinæum*; but if this ſhould have been lacerated, the common ones cannot be uſed. A ſort has for ſuch caſes been contrived with ſtems, to which ligatures are to be fixed, and then brought forwards and backwards to a bandage round the waiſt. Theſe are always very troubleſome, and are therefore never recommended, unleſs no other kind can be worn.

From the long continuance of a peſſary in the *vagina*, and ſometimes from the entanglement of the *os uteri* within the opening at its centre, there has been much difficulty when it was neceſſary to withdraw it. If it is poſſible to paſs a piece of tape through the circular opening, and if we pull in a proper direction by both ends, with a firm and gradually increaſed force, ſo as to give the parts time to diſtend, we can hardly fail of ſucceſs. But if that is not poſſible, the rim of the peſſary muſt be divided by a pair of ſharp ſtrong *forceps*, of the kind uſed by watch makers.

It has been obſerved that the uſe of a peſſary does not hinder the act of coition or conception; and when a woman has a *prolapſus*, it is of great ſervice that ſhe ſhould live with her huſband.

An opinion was formerly entertained, that a *procidentia* of the *uterus* was beneficial in ſeveral other complaints to which women are liable, and that it was not proper to replace it; but I have never ſeen any reaſon for this opinion. In ſome caſes it is alſo ſaid, that the *uterus* could not be returned, from its long continuance, or from the increaſed bulk of the neighbouring parts; but I preſume that all ſuch caſes might have been managed by gentle evacuations, proper applications, and long confinement in an horizontal poſition.

Hydatids, or ſmall veſicles, containing a watery fluid, are ſometimes formed in the cavity of the *uterus*. Theſe have been ſuppoſed to proceed from *coagula* of blood, or portions of the *placenta*, remaining in the *uterus*; but there is generally reaſon to think that they are an original production of the *uterus*, independent of ſuch accidental circumſtances.

The ſymptoms of this diſeaſe, are ſuch as are common in all caſes accompanied with an increaſed degree of uterine irritation, and as there is alſo a diſtention of the *abdomen* from the enlargement of the *uterus*, it is not ſurpriſing that theſe caſes ſhould be miſtaken for pregnancy. In the early part of the diſeaſe, the ſymptoms, though troubleſome, are not alarming; but about the termination of nine months, the *uterus* makes its efforts to expel them, and the attending circumſtances are ſimilar to thoſe of a labour. If the hydatids ſhould be expelled without the occurrence of any dangerous ſymptom, there is no occaſion for our aſſiſtance or interference. But if a flooding ſhould come on, or if the action of the *uterus* ſhould be inſufficient for their expulſion, it behoveth us to make gentle attempts to extract them, that the *uterus* may be at liberty to contract, and the orifices of the veſſels be thereby leſſened. We muſt, however, act with great caution, leſt we incur the danger of greater miſchief than we mean to avoid.

There are upon record many hiſtories of the dropſy of the *uterus*, which is deſcribed as a collection of water in its cavity, the *os uteri* being ſo perfectly cloſed as to prevent its eſcape. It is ſuppoſed to be occaſioned by an increaſed ſecretion and a diminiſhed abſorption of lymph, as in collections of water in other cavities. The ſymptoms of the dropſy are the ſame as thoſe which occur in the caſe of the hydatids, and when the action of the *uterus* comes on, which is uſually imagined to be the patient's labour, after a ſudden diſcharge of water, the *abdomen* ſubſides, and, though chagrined at her diſappointment, ſhe recovers her former health.

The common explanation of the manner in which the water is confined in the *uterus* ſeems unſatisfactory, and, in the few caſes of this kind which I have ſeen, is not juſt. For in theſe, the water being diſcharged, a membranous bag was afterwards voided, which, when inflated, put on the form of the diſtended *uterus*, of which it appeared to be a lining. So that what has been called a dropſy of the *uterus*, is, probably, no more than one large hydatid.

Another kind of dropſy has been mentioned as appertaining to the *uterus*. In this the water is originally contained in the cavity of the *abdomen*, and being abſorbed by the termination of the *fallopian* tubes, is conveyed to the *uterus*, from which it is diſcharged; but of this I have never ſeen any ſatisfactory proof.

It has been ſaid, that wind may be collected and retained in the cavity of the *uterus* till it is diſtended in ſuch a manner as to reſemble pregnancy, and to produce its uſual ſymptoms. By the ſudden eruption of the wind, the tumefaction of the *abdomen* is removed, and the patient reduced to her proper ſize. Of this complaint I have never ſeen an example, but many caſes have occurred of temporary exploſions of wind from the *uterus*. When no injury has been done to the parts in former labours, I preſume that this complaint happens to women with feeble conſtitutions and ſome particular debility of the *uterus*; it is reaſonable, therefore, to expect advantage from ſuch means as ſtrengthen the habit in general, or give energy to the *uterus* itſelf.

By the term mole, authors have intended to deſcribe very different productions of, or excretions from, the *uterus*. By ſome it has been uſed to ſignify every kind of fleſhy ſubſtance, particularly thoſe which are properly called *polypi*; by others, thoſe only which are the conſequence of imperfect conception; and by many, which is the moſt popular opinion, every *coagulum* of blood, which continues long enough in the *uterus* to aſſume its form, and to have only the fibrous part, as it has been called, remaining, is denominated a mole.

There is ſurely much impropriety in including under one general name, appearances ſo contrary, and ſubſtances ſo different. Of the polypus we have already ſpoken. Of the ſecond kind, which has been defined as an *ovum deforme*, as it is the conſequence of conception, it might more juſtly be arranged under the claſs of monſters; and though it has the appearance of being a ſhapeleſs maſs of fleſh, if examined carefully with the knife, various parts of a child may be diſcovered lying together, apparently in confuſion. The pedicle alſo by which it is connected to the *uterus*, is not of a fleſhy texture, but vaſcular, and ſeems to be a true umbilical cord; there is alſo a *placenta* and membranes containing waters. The ſymptoms attending the formation, growth and expulſion of this maſs from the *uterus*, correſpond with thoſe of a well formed child. With reſpect to the third opinion of a mole, an inciſion into its ſubſtance will diſcover its true nature; for though the external ſurface appears to be fleſhy, the internal part is compoſed merely of coagulated blood. As ſubſtances of this kind, which moſt commonly occur after delivery, would always be expelled by the action of the *uterus*, there ſeems to be no reaſon for a particular enquiry, if popular opinion had not annexed the idea of miſchief to them, and attributed their formation, or continuance in the *uterus*, to the miſconduct of the practitioner. Hence the perſuaſion aroſe of the neceſſity of extracting all the coagula of blood out of the *uterus*, immediately after the expulſion of the *placenta*, or of giving medicines to force them away; but abundant experience hath proved that the retention of ſuch coagula is not productive of any danger, and that they are ſafely expelled by the action of the *uterus*.

The *ovaria* are the ſeat of a particular kind of dropſy, which moſt frequently happens to women at the time of the final ceſſation of the *menſes*. It is of the encyſted kind, the fluid being ſometimes contained in one cyſt, often in ſeveral, and in ſome caſes the whole tumefaction has been compoſed of hydatids not larger than grapes; of theſe different kinds we may judge by the fluctuation, and by the inequalities of the *abdomen*.

From the veſicular ſtructure of the *ovaria*, there may be ſome inherent diſpoſition to this diſeaſe; but it has uſually been attributed to other cauſes, as accidents and rude treatment at the time of parturition, ſuppreſſion of the *menſes*, obſtructions of the *viſcera*, or injuries of the part. The ſymptoms attending it, are pain in the lower part of the *abdomen*, with a circumſcribed tumour on one or both ſides, gradually extending higher up and acroſs the *abdomen*, which, when there is a ſuppreſſion of the *menſes*, is often miſtaken for pregnancy; there is alſo, in ſome caſes, a ſwelling of the thigh or leg of the ſame ſide with the diſeaſed *ovarium*. In the early ſtate of the diſeaſe, this dropſy may be diſtinguiſhed from the *aſcites* by the circumſcription of the tumour; but when it is increaſed to a large ſize, unleſs it be of an irregular form, and we are acquainted with the early ſymptoms, the diſtinction is very difficult. It is to be obſerved, that the ſecretion of urine is but little diminiſhed, and the conſtitution apparently little affected in the beginning of the dropſy of the *ovaria*, and that after a long continuance of it, the principal inconveniences ſeem to ariſe from the preſſure it makes, and from the unwieldineſs of the patient. It is alſo very remarkable, that this diſeaſe in many caſes proceeds ſo very ſlowly, that twelve or fourteen years, or often a longer time, may paſs from its commencement to its greateſt enlargement.

In the beginning of this dropſy, when the increaſing *ovarium* is firſt perceptible through the integuments of the *abdomen*, there is often ſo much pain as to require repeated bleeding, fomentations, and opiates to appeaſe it. When the diſeaſe has made a certain progreſs, no method of treatment has hitherto been diſcovered ſufficiently efficacious to remove it. The fluid once depoſited, ſeems to be out of the power of the circulation, its abſorption not being promoted by the uſe of any of thoſe evacuating medicines, which ſometimes prove ſucceſsful in the other kinds of dropſy. Recourſe muſt then be had to the operation of the *paracenteſis*, by which preſent relief is afforded, and by a repetition of the ſame operation, as often as the return of the abdominal ſwelling may require it, the life of the patient may be for many years prolonged. Should there be any ſuſpicion that the water is contained in different cyſts, or that the tumour ſhould be compoſed of hydatids, it is proper to inform the friends of the patient that the operation may not ſucceed, or not in a manner equal to our wiſhes. And it ſhould be eſtabliſhed as a general rule, that we be aſſured, by an examination *per vaginam*, that women are not pregnant before this operation is performed, even ſuppoſing they have undergone the operation before; provided they are at a time of life and under circumſtances which juſtify any ſuſpicion of pregnancy. For through the want of this circumſpection, deplorable and irremediable miſchief has been done to the patient, and the profeſſion very much diſgraced.

The *ovaria* are alſo ſubject to ſchirrous and cancerous diſeaſes, with conſiderable enlargement. In theſe ſtates they generally adhere to ſome adjoining part, but in ſome caſes they continue detached and free from any adheſion, and ſinking lower down in the *pelvis* on one ſide, or in the hollow of the *ſacrum*, produce inconveniences according to their ſize and ſituation. Of thoſe by which the progreſs of a labour may be impeded, we ſhall ſpeak in the detail of the cauſes of difficult labours; but an inſtance of a diſeaſed *ovarium*, occaſioning the ſymptoms of a retroverted *uterus*, is ſo well deſcribed by my very ingenious friend Mr. Everard Home, that I ſhall beg leave to relate it.

Suſannah Fletcher, in the twenty-third year of her age, had a ſuppreſſion of urine, which frequently required the uſe of the catheter. Not being able to ſupport the expence of medical attendance, ſhe obtained admiſſion into the Glouceſter Infirmary, where having continued for ſeveral months, without any other than temporary relief, ſhe gave up all hope of being cured, and returned to her huſband. She ſoon became pregnant, and, in a ſhort time, was ſurpriſed to find that her complaint left her, though it returned immediately after her delivery. It diſappeared a ſecond time in the ſame manner, and under the ſame circumſtances. Her huſband went abroad while ſhe was pregnant, and after her delivery ſhe was obliged to go to ſervice for her maintenance; but the daily neceſſity ſhe was under of having the catheter introduced, rendering her unfit for that ſituation, ſhe was admitted a nurſe in the Royal Hoſpital at Plymouth, of which I was one of the aſſiſtant ſurgeons in December 1778.

She was then unable to void any urine without the catheter, ſhe was habitually coſtive, her ſtomach was eaſily diſturbed, and ſhe was ſubject to hyſteric fits. In all other reſpects ſhe was tolerably healthy, and menſtruated with regularity.

In May 1779, in the agitation of a violent fit, ſhe vomited a large quantity of blood, and this hemorrhage frequently returning, ſhe died in the beginning of June 1779.

The body was opened in the preſence of ſeveral gentlemen belonging to the hoſpital.

All the *viſcera* of the *abdomen* were in a healthy ſtate, except the ſtomach and *duodenum*, which were ſomewhat inflamed on their external ſurface, and the former internally alſo near the *cardia*; but we could not diſcover the orifice of the veſſel which had been ruptured.

In the examination of the contents of the *pelvis*, we found the *uterus* puſhed forward towards the *pubis*, and the right *ovarium*, which was enlarged beyond the ſize of a hen's egg, lying between the *vagina* and *rectum*, where it had formed a bed, and was ſo much fitted to that poſition, that it could not be eaſily retained in any other. The left *ovarium*, *uterus*, and bladder, were free from diſeaſe.

The ſituation of the right *ovarium* was no ſooner obſerved, than it occurred to me that it had produced the ſame effect as when the *uterus* falls back upon its *cervix* in the retroverſion of the *uterus*, and with this idea all the ſymptoms of the diſeaſe under which the poor woman had laboured, the removal of the ſuppreſſion of urine during pregnancy, and its return after delivery, could be readily explained. The analogy between the retroverted *uterus*, and the effect produced by the diſeaſed *ovarium*, were in this caſe too obvious to eſcape obſervation; but if the cauſe of the diſeaſe had been diſcovered during the life of the patient, it would have been difficult to have afforded relief, unleſs ſome ſurgeon had been intrepid enough to have paſſed a trocar through the poſterior part of the *vagina* into the *ovarium*, and diſcharged the fluid which it was found to contain.

There have been inſtances of one of the *ovaria* paſſing under *Poupart's* ligament into the groin, where it has put on the appearance, and produced the ſame ſymptoms, as when a portion of the *omentum* or inteſtines is ſtrangulated; and relief has been obtained by the ſame mode of proceeding as if it were a real *hernia* of the inteſtine.

It is very remarkable that in diſeaſes of the *ovaria*, teeth, hair, and other extraneous animal ſubſtances, are found in them ſo frequently, that there is ſcarce a collection of anatomical curioſities in which there are not various examples of them.

SECTION VII.

THE principal parts contained in the cavity of the *pelvis*, are, firſt, the *urethra*, which is connected with the internal ſurface of the *ſymphyſis* of the *oſſa pubis*, with its orifice terminating immediately below the inferior edge, and joined at its other extremity to the bladder, which, when filled with urine, extends into the cavity of the *abdomen*, and reſts upon the upper edge of the *oſſa pubis*. Secondly, the *vagina*, or canal which leads from the *pudendum* to the *uterus*, paſſing obliquely upwards and backwards, connected poſteriorly with the lower part of the *rectum*, and anteriorly with the *urethra* and inner ſurface of the *oſſa pubis*, as is the *uterus*, in part, to the bladder. Thirdly, the *rectum* or inteſtine; the poſterior part of which adheres to the hollow of the *ſacrum*. But we are not to conclude, that any part of the cavity of the *pelvis* is unoccupied; for beſides theſe principal parts, every place is filled up with cellular or adipoſe membrane, and it ſeems as if by the preſſure upon theſe, at the time of parturition, an effect equivalent to an abſolute enlargement of the cavity was produced.

The cavity of the *pelvis* is conſidered, by anatomiſts, as the inferior part of the cavity of the *abdomen*, but in a deſcription of its contents, with a view to the practice of midwifery, it appears more convenient to ſpeak of them as diſtinct cavities, ſeparated by the *peritonæum*; which, deſcending from the fore part of the *abdomen*, paſſes over the *fundus* and poſterior part of the bladder, aſcends over the anterior part and *fundus* of the *uterus*, and then making a deep inflection, covers the back part of the *uterus*, and the greateſt portion of the *vagina.* It then reverts over the anterior part of the *rectum*, and proceeds to form a covering to the cavity of the *abdomen.*

By this inflection of the *peritonæum*, the *uterus*, during pregnancy, is permitted to expand more freely, and to riſe without inconvenience into the cavity of the *abdomen.* But from the ſame cauſe, women become liable to various diſeaſes, to the retroverſion of the *uterus*, to the *hydrocele*, or dropſy of the *perinæum*, and to that ſpecies of *hernia* which is occaſioned by the deſcent of the inteſtines between the *vagina* and *rectum.* But quadrupeds, by their horizontal poſition, are exempt from every diſadvantage to which the inflection of the *peritonæum* may ſubject women.

By the term retroverſion, ſuch a change of the poſition of the *uterus* is underſtood, that the *fundus* is turned backwards and downwards between the *vagina* and *rectum*; and the *os uteri* is turned forwards to the *pubis*, and upwards in proportion to the deſcent of the *fundus*, ſo that by an examination *per vaginam* it cannot be felt, or not without difficulty. By the ſame examination there may alſo be perceived a large round tumour, occupying the inferior part of the cavity of the *pelvis*, and preſſing the *vagina* towards the *pubis*. By an examination *per anum*, the ſame tumour may be felt, preſſing the *rectum* to the hollow of the *ſacrum*; and if both theſe examinations are made at the ſame time, we may readily diſcover that the tumour is confined between the *vagina* and *rectum*.

Beſides the knowledge of the retroverſion which may be gained by theſe examinations, it is found to be accompanied with other ſymptoms. There is in every caſe a ſuppreſſion of urine, with extreme pain and ſuch diſtention of the bladder, that the tumour formed by it in the *abdomen*, often equals in ſize, and reſembles the *uterus* in the ſixth or ſeventh month of pregnancy. But it is neceſſary to obſerve, that the ſuppreſſion of urine is, in general, abſolute only before the retroverſion of the *uterus*, or during the time it is retroverting; for when the retroverſion is completed, there is uſually a diſcharge of ſome urine, ſo as to prevent an increaſe of the diſtention of the bladder, though not in a ſufficient quantity to remove it. There is alſo an obſtinate conſtipation of the bowels, produced by the preſſure of the retroverted *uterus* upon the *rectum*, which renders the injection of a clyſter very difficult. But it appears that all the painful ſymptoms are chiefly in conſequence of the ſuppreſſion of urine; for none of thoſe parts, which are apt to ſympathiſe in affections or diſeaſes of the *uterus*, are diſturbed by its retroverſion.

The retroverſion of the *uterus* has generally occurred about the third month of pregnancy, and ſometimes after delivery; it may likewiſe happen when the *uterus* is, from any cauſe, enlarged to the ſize it acquires about the third month of pregnancy, but not with ſuch facility as in the pregnant ſtate, becauſe the enlargement is then chiefly at the *fundus.* If the *uterus* is but little enlarged, or if it be enlarged beyond a certain ſize, it cannot well be retroverted. For in the firſt caſe, ſhould the cauſe of a retroverſion exiſt, the weight at the *fundus* would be wanting to produce it; and in the latter, the *uterus* would be raiſed above the projection of the *ſacrum*, and ſupported by the ſpine.

The ſuppreſſion of urine has hitherto been ſuppoſed to be the conſequence of the retroverſion of the *uterus*, which has been aſcribed to various accidental cauſes. But if we conſider the manner in which theſe parts are connected, and examine the effect produced by the inflation of the bladder in the dead ſubject, ſo as to reſemble the diſtention brought on by a ſuppreſſion of urine in the living, we ſhall be convinced that the *uterus* muſt be elevated before it can be retroverted. Now, as there appears to be no cauſe capable of elevating, and at the ſame time projecting the *fundus* of the *uterus* backwards, beſides the diſtention of the bladder, and as ſuch elevation and projection neceſſarily follow the diſtention, it is more reaſonable to conclude, that the ſuppreſſion of urine precedes the retroverſion, if we do not allow it to be a cauſe without which the retroverſion cannot exiſt. Moreover, if the *uterus* is in a ſtate which permits it to be retroverted, when the bladder is much diſtended, a retroverſion is a neceſſary conſequence. If a woman, for inſtance, about the third month of her pregnancy, has a ſuppreſſion of urine continuing for a certain time, we may be aſſured that the *uterus* is retroverted.

It would be abſurd to contend for the opinion that the ſuppreſſion of urine is the cauſe of the retroverſion of the *uterus*, for were it not juſt, it would be contradicted by daily experience. But the matter no longer reſts upon the foundation of opinion or conjecture. For from the firſt caſe in which I thought I had reaſon to ſuſpect it, I have ſo conſtantly obſerved it, either by the reſerve of women of ſuperior rank in life, or by the reſtraint of thoſe in inferior ſituations, neglecting or being prevented from attending to the calls of nature, that there does not remain a doubt concerning it. The fact hath alſo been proved in a variety of caſes by practitioners of the firſt eminence, who have ſupplied me with the moſt unqueſtionable teſtimonies of its truth; and, in this caſe, it is a matter of great importance to diſcover the cauſe of the diſeaſe, as the method of preventing it is thereby immediately pointed out.

But the preceding ſuppreſſion of urine may be overlooked, as there is not occaſion for it to be of long continuance in order to produce its effect, eſpecially in a woman who hath a capacious *pelvis*, in whom the retroverſion of the *uterus* is moſt likely to happen. It muſt alſo be obſerved, though the ſuppreſſion of urine gives to the *uterus* its firſt inclination to retrovert, yet the poſition of the *os uteri* is ſuch in the act of retroverting, and the tumour formed by the *fundus* is ſometimes ſo large when actually retroverted, as to become, in their turn, cauſes of the continuance of the ſuppreſſion of urine.

Should any doubt remain of the cauſe of the retroverſion, it cannot be diſputed but that all attempts to reſtore the *uterus* to its natural poſition, before the diſtention of the bladder is removed, muſt be fruitleſs, as the *uterus* will be borne down by the preſſure of the ſuperincumbent bladder. The firſt ſtep to be taken for the relief of the patient, is to diſcharge the urine; yet there is always great difficulty in the introduction of the common catheter, becauſe the *urethra* is elongated, altered in its direction, and preſſed againſt the *oſſa pubis* by the tumour formed by the retroverted *uterus*. But the inconveniencies thence ariſing may be avoided by the uſe of the flexible male catheter, ſlowly conducted. I ſay ſlowly, becauſe the ſucceſs of the operation, and the eaſe and ſafety of the patient, very much depend upon this circumſtance; for if we affect to perform it with haſte and dexterity, or ſtrive to overcome the difficulty by force, we ſhall be foiled in the attempt, or it will be ſcarcely poſſible to avoid doing injury to the parts. The catheter ſhould not be carried farther into the bladder, when the urine begins to flow, unleſs it ceaſes before the diſtention is removed, which, in ſome caſes, happens in ſuch a manner as to give us the idea of a bladder divided into two cavities. External preſſure upon the *abdomen* will favour the diſcharge of the urine, after which the patient is ſenſible of ſuch relief as to conclude, that ſhe is wholly freed from her diſeaſe. A clyſter ſhould then be injected, and repeated if neceſſary, to remove the *fæces* which may have been detained in the *rectum*, before or during the continuance of the retroverſion.

But though the diſtention of the bladder is removed by the diſcharge of the urine, and all the ſymptoms occaſioned by it relieved, the *uterus* continues retroverted. It has been ſaid, that the ſtate of retroverſion was injurious to the *uterus* itſelf, and would produce ſome dangerous diſeaſe in the part.

It has alſo been aſſerted, that if the *uterus* was permitted to remain in that ſtate, it would be locked in the *pelvis* by the gradual enlargement of the *ovum*, in ſuch a manner as to render its repoſition impracticable, and the death of the patient an inevitable conſequence. On the ground of theſe opinions we have been taught, that it is neceſſary to make attempts to reſtore the *uterus* to its natural ſituation, with all expedition, when the urine is diſcharged, and that we are to perſevere in theſe attempts till we ſucceed. In caſe of failure, the means we have been adviſed to purſue, many of which are ſevere, and ſome extremely cruel, would beſt deſcribe the dread of thoſe conſequences which have been apprehended from the retroverſion.

For both theſe conſequences there cannot ſurely be reaſon to fear. If the *uterus* be injured, there will be no farther growth of the *ovum*; and if the *ovum* ſhould continue to grow, it is the moſt infallible proof that the *uterus* has not received any material injury. But it is remarkable, that in the moſt deplorable caſes of the retroverſion of the *uterus*, thoſe which have terminated fatally, the death of the patient has been diſcovered to be owing to the injury done to the bladder only. It is yet more remarkable, that in the multiplicity of caſes of this kind which have occurred, many of which have been under the care of practitioners who had no ſuſpicion that the *uterus* could be retroverted, and who would of courſe make no attempts to replace it, that there ſhould be ſo few inſtances of any injury whatever. Yet every patient under theſe circumſtances muſt have died, if their ſafety had depended upon the reſtoration of the *uterus* to its proper ſituation by art, attention having only been paid to the moſt obvious and urgent ſymptom, the ſuppreſſion of urine, and to the removal of the miſchief which might thence ariſe.

Opinions are often vain and deceitful, but, with reſpect to the matter now under conſideration, they have alſo been very prejudicial. For it has been proved in a variety of caſes, many of which were attended to with particular care by unprejudiced and very capable witneſſes, that the *uterus* may remain in a retroverted ſtate for many days or weeks, without any other detriment than what may be occaſioned by the temporary interruption of the diſcharges by ſtool or urine. And contrary to all expectation it hath been moreover proved, that the *uterus* when retroverted, will often be gradually, and ſome times ſuddenly, reſtored to its poſition without any aſſiſtance, provided the cauſe be removed by the occaſional uſe of the catheter. It appears that the enlargement of the *uterus*, from the increaſe of the *ovum*, is ſo far from obſtructing the aſcent of the *fundus*, that it contributes to promote the effect, the diſtention of the *cervix* becoming a balance to counteract the depreſſion of the *fundus*; for I have found no caſes of the retroverted *uterus* admit of a repoſition with ſuch difficulty as in women who were not pregnant.

Allowing that we have the power of returning the *uterus* when retroverted to its proper ſituation, knowing alſo that it may continue retroverted without any immediate ill conſequences, and preſuming that it is capable of recovering its ſituation by the gradual exertion of its own power, at leaſt that ſuch recovery is an event which follows the change which the parts undergo, it is neceſſary to conſider the advantages and diſadvantages which may reſult from our acting according to either intention.

If the attempt to replace the *uterus* be inſtantly made after the urine is diſcharged, ſo much force will often be required for the purpoſe as will, notwithſtanding all precaution, give much pain, induce the hazard of injuring the *uterus*, and often occaſion abortion; which, in ſome inſtances, is alſo ſaid to have happened when little force was uſed, and even when the *uterus* was actually retroverted. It muſt likewiſe be granted, that, in ſome caſes, by paſſing two or more fingers into the *vagina*, the *fundus* of the *uterus* may be raiſed beyond the projection of the *ſacrum* without much force; though, in others, repeated attempts, with various contrivances, and the patient at the ſame time placed in the moſt favourable poſitions, have failed to procure ſucceſs.

If, on the contrary, we are perſuaded that the *uterus* will ſuſtain no injury by its retroverſion, and that there is no danger of its being locked in the *pelvis*, but that it will be gradually reſtored to its natural poſition without aſſiſtance, we have then only to guard againſt thoſe inconveniencies which may be occaſioned by the preſſure made upon the bladder and *rectum*. By the former of theſe, we ſhall be reduced to the neceſſity of uſing the catheter daily or frequently, which is generally done without difficulty, except the firſt time it is introduced. This operation, it muſt be acknowledged, is, in all caſes, very diſagreeable and troubleſome to the patient, and, in ſome ſituations, the neceſſity we are under of performing it, is in itſelf a ſufficient reaſon for our attempting to replace the *uterus* ſpeedily. But the ſuppreſſion of urine does not always remain through the continuance of the retroverſion of the *uterus*, for when the diſtention of the bladder has been removed for ſome days, and its power of action reſtored, the patient will often be able to void her urine without aſſiſtance.

We may then bring the matter to this iſſue. If the *uterus*, when retroverted, can be replaced by art, without the exertion of much force, or the riſk of miſchief, the immediate repoſition, though not abſolutely neceſſary, is at all times an event to be wiſhed, as farther apprehenſion and trouble are prevented, the ſafety of the patient inſured, and her mind quieted. But when the *uterus* cannot be replaced without violence, it ſeems more juſtifiable to wait for its return, and to ſatisfy ourſelves with watching and relieving the inconveniences produced by the retroverſion. We ſhall alſo find, that the longer the attempt to replace the *uterus* is delayed, the more eaſy the operation will be, and the ſucceſs more certain.

To thoſe who have been accuſtomed to conſider the retroverſion of the *uterus* as productive of immediate and urgent danger, it may ſeem ſtrange to aſſert, that when the urine is diſcharged, the patients are often able to return to the common buſineſs of life, without danger, and with very little trouble, if no eſſential injury has been done to the bladder, by the greatneſs or long continuance of the diſtention. I do not mean that they will be as perfectly eaſy as if the *uterus* was not retroverted, but the inconveniencies they may ſuffer will be trifling and of ſhort duration, compared with thoſe which might ariſe from violent attempts to replace it.

Another complaint ſimilar to that of which we have been ſpeaking, and which has been called a retroflexion of the *uterus*, has occurred in practice. By this term is implied, ſuch an alteration in the poſition of the parts of the *uterus*, that the *fundus* is turned downwards and backwards between the *rectum* and *vagina*, whilſt the *os uteri* remains in its natural ſituation; an alteration which can only be produced by the curvature or bending of the *uterus* in the middle, and in one particular ſtate; that is, before it is properly contracted when a woman has been delivered.

A ſuppreſſion of urine exiſting at the time of delivery, and continuing unrelieved afterwards, was the cauſe of the retroflexion of the *uterus* in the ſingle caſe of this kind of which I have been informed, and the ſymptoms were like thoſe which are occaſioned by the retroverſion.

When the urine was diſcharged by the catheter, which was introduced without difficulty, the *fundus* of the *uterus* was replaced by raiſing it above the projection of the *ſacrum*, in the manner adviſed in the retroverſion.

SECTION VIII.

THE *hydrocele*, or dropſy of the *perinæum*, is not an original diſeaſe, but a ſymptom of the *aſcites*, occaſioned by the preſſure of the water contained in the cavity of the *abdomen*, upon the inflected part of the *peritonæum* between the *vagina* and *rectum*. The former having no ſupport from the adjoining parts, being unable to ſuſtain the weight of the water which reſts upon it, begins to yield, and the preſſure being continued or increaſed, the poſterior part of the *vagina* is diſtended, puſhed down, and at length protruded through the external parts in ſuch a manner as to invert the *perinæum*. A tumour is then formed at the *pudendum*, of whith the *vagina* is the external coat, and the *peritonæum* the internal. This appearance occurs too rarely, or the inſtances recorded are too few, to juſtify the eſtabliſhment of any general mode of practice; but by the hiſtory of the following caſe, we may be enabled to make a diſtinction of this particular tumour, and of the method of treatment which it may ſometimes be requiſite and adviſable to purſue.

In the year 1772, I attended a patient who was then pregnant of her ſixth child. She had a ſlight cough, ſome difficulty in breathing, and an obtuſe pain in her right ſide. Her eyes had a yellow tinge, and ſhe had an uneaſy ſenſation as if her ſtomach was ſwelled. Her urine, which was voided in ſmall quantities, was high-coloured, and depoſited a red ſediment. Her pulſe was quick, ſhe had a conſtant thirſt, and very little appetite. She reckoned that ſhe was in the ſeventh month of her pregnancy.

Six ounces of blood were taken from the arm, a ſaline draught was given, with a few grains of rhubarb, twice daily or occaſionally. She was adviſed to drink whey or ground-ivy tea with milk, and ſweetened with honey for her common drink, to live chiefly upon fruit and vegetables, and to go into the country. There ſhe reſided near two months, during which time, little alteration was made in her diet or medicines, but the *abdomen* was diſtended to an unuſually large ſize. She then returned to her family in town, in daily expectation of being delivered.

In the courſe of my attendance, ſhe had often mentioned a complaint which was very troubleſome, and occaſioned great ſolicitude. This, from her deſcription, I conſidered as a *prolapſus* of the *uterus*, and expreſſing a deſire to be more particularly informed, ſhe permitted me to examine it.

I was ſurpriſed to find a tumour of the ſize, and ſomewhat of the form, of an inflated calf's bladder, riſing from the *perinæum* internally, paſſing forwards and outwards, ſo as perfectly to occlude the entrance into the *vagina*. By preſſure the tumour leſſened, and by a continuance of the preſſure it entirely diſappeared, leaving a looſe pouch within, and on the back part of the *vagina*. When ſhe ſtood up, the tumour returned to its former ſize and ſituation; but when ſhe lay down, and the preſſure was renewed, it again diſappeared. It had not the feel of *omentum* or inteſtine, but clearly contained a fluid which muſt communicate with ſome other cavity. I afterwards examined the *abdomen*, and could readily perceive a fluctuation in it. A doubt then aroſe, whether ſhe was with child, but by an examination *per vaginam*, I could diſcover the head of a ſmall child reſting upon the *pubis*.

The peculiarity of this tumour, its receſſion when preſſed, and its return when the preſſure was removed and the patient ſtood upright, together with the aſſurance of there being water contained in the cavity of the *abdomen*, were preſumptive proofs that there muſt be a communication between the tumour and that cavity, and this communication could not be explained ſo ſatisfactorily as by ſuppoſing, that the water had inſinuated itſelf between the *vagina* and *rectum*, and by reſting upon, had at length protruded the poſterior part of the *vagina*.

If this opinion was juſt, it might yet be debated, what was the moſt reaſonable method to be purſued for the relief of the patient; or whether it would not be more prudent, to defer all attempts till ſhe was delivered. Several gentlemen of the firſt eminence in the profeſſion were conſulted upon the occaſion, and it was agreed that we ſhould wait till ſhe was delivered.

About three weeks after this time her labour came on. The child being ſmall, and preſenting naturally, it was ſoon expelled, the tumour yielding gradually to the preſſure of the head of the child, though it appeared that the expulſion was completed by the action of the *uterus* only, the abdominal muſcles being too much diſtended to contribute any aſſiſtance. The *placenta* came away with great eaſe, and ſhe had no complaint till the fourth day after her delivery, when after a few looſe ſtools, her ſtrength failed, and ſhe expired.

After her death I was very deſirous of knowing the truth of the opinion which had been entertained concerning her caſe, but her friends would not conſent that the body ſhould be opened. They, however, permitted me to examine the tumour. A trocar being puſhed into it, upwards of a quart of water was immediately diſcharged. The water then came away more ſlowly, but I obſerved that the *abdomen* ſubſided in proportion to the water diſcharged through the *canula* of the trocar.

A ſurgeon of great experience and ability, who ſaw this patient, informed me that he had met with a ſimilar caſe in a woman who was not pregnant. He tapped the tumour with a ſmall trocar, and left the *canula* remaining in the orifice for ſeveral days. The water continued to drain away till the *abdomen* was perfectly empty. This woman recovered, and had no return of the dropſy.

SECTION IX.

BY the deſcent of the inteſtines, or *omentum*, between the *uterus* and *rectum*, is conſtituted a particular kind of *hernia*, of which the caſes recorded are very few. The inconveniencies thence ariſing will depend upon the bulk of the tumour formed, and the compreſſion which the parts thus ſituated may undergo. The methods by which relief is to be obtained by art will immediately occur to every practitioner, as they conſiſt in making all prudent and reaſonable attempts to replace the diſordered parts, and keeping them in their proper ſituation when replaced. It is happy for the patient, that no immediate bad conſequences are likely to follow this complaint, though, under particular circumſtances, it may prove fatal, as in the following caſe.

A ſervant in a gentleman's family, in a ſtate of perfect health, was ſuddenly ſeized with all the ſymptoms of a ſtrangulated *hernia*, though, from the moſt accurate enquiry and examination, it did not appear that ſhe then, or at any preceding time, had a *hernia*. All the means uſed for her relief were ineffectual, and ſhe died on the third day of her illneſs. Leave being obtained to inſpect the body, a conſiderable portion of inteſtine was found lying between the *uterus* and *rectum*, in a gangrenous ſtate; and it was confined and compreſſed in this ſituation by a membranous bridle, which paſſed from the *fundus* of the *uterus* to the oppoſite part of the *rectum*.

CHAPTER III.

SECTION I.

On Menſtruation.

FROM the *uterus* of every healthy woman, who is not pregnant, or who does not give ſuck, there is a diſcharge of blood, at certain periods, from the time of puberty to the approach of old age; and, from the periods or returns of this diſcharge, it is called Menſtruation.

There are ſeveral exceptions to this definition. It is ſaid, that ſome women never menſtruate, their conſtitutions or ſtructure not requiring this diſcharge. Some menſtruate while they continue to give ſuck, and others are ſaid to menſtruate during pregnancy; but of this I have never known an example. Some are ſaid to menſtruate in early infancy, and others in old age; but ſuch diſcharges may, I believe, with more propriety, be called morbid, or ſymptomatic. There are alſo many varieties with reſpect to the periods and appearance of the diſcharge, from permanent cauſes or accidental influences; but the definition is generally true.

At whatever time of life this diſcharge comes on, a woman is ſaid to be at puberty, though of this it is a conſequence, and not a cauſe. The early or late appearance of the menſes may depend upon the climate, the conſtitution, the delicacy or hardineſs of living, and upon the manners of thoſe with whom young women converſe. There ſeems to be an analogy between the effect of heat upon fruits and the female conſtitution, with reſpect to menſtruation, for the warmer the climate, the ſooner the menſes appear. In *Greece*, and other hot countries, girls begin to menſtruate at eight, nine, and ten years of age; but advancing to the northern climates, there is a gradual protraction of the time till we come to *Lapland*, where women do not menſtruate till they arrive at mature age, and then in ſmall quantities, at long intervals, and ſometimes only in the ſummer. But if they do not menſtruate according to the genius of the country, they ſuffer equal inconveniencies as in warmer climates, where the quantity diſcharged is much greater, and the

periods

periods ſhorter. In this country, girls begin to menſtruate from the fourteenth to the eighteenth year of their age, and ſometimes at a later period, without any ſigns of diſeaſe; but if they are luxuriouſly educated, ſleeping upon down beds, and ſitting in hot rooms, menſtruation commences at a more early period.

Many changes in the conſtitution and appearance of women are produced at the time of their firſt beginning to menſtruate. Their complection is improved, their countenance is more expreſſive and animated, their attitudes graceful, and their converſation more intelligent and agreeable; the tone of their voice becomes more harmonious, their whole frame, but particularly their breaſts, are expanded and enlarged, and their minds are no longer engaged in childiſh purſuits and amuſements.

The difference in the time of life when the menſes appear, has been aſſigned as the reaſon why women, in hot climates, are almoſt univerſally treated as ſlaves, and why their influence is ſo powerful and extenſive in cold countries, where perſonal beauty is in leſs eſtimation. In hot climates, women are in the prime of their beauty when they are children in underſtanding, and when their underſtanding is matured, they are no longer the objects of love. In cold climates their perſons and their minds acquire perfection at the ſame time, and the united power of their beauty and faculties is irreſiſtible.

Some girls begin to menſtruate without any preceding indiſpoſition, but there are generally appearances or ſymptoms which indicate the change that is about to take place. These are uſually more ſevere at the firſt than in the ſucceeding periods, and they are ſimilar to thoſe produced by uterine irritation from other cauſes, as pains in the back and inferior extremities, complaints of the viſcera, with various hyſteric and nervous affections. Theſe commence with the firſt diſpoſition to menſtruate, and continue till the diſcharge comes on, when they abate or diſappear, returning however, in ſome women, at every period during life.

The quantity of blood diſcharged at each evacuation depends upon the climate and conſtitution, and it varies in different women in the ſame climate, or in the ſame women at different periods. But there is a common quantity to which, under the like circumſtances, women approach, and it may be eſtimated in this manner. Suppoſing the quantity to be about eighteen ounces in *Greece*, and two ounces in *Lapland*, there will be a gradual alteration between the two extremes, and in this country it will amount to about ſix ounces.

There is alſo a great difference in the time required for the completion of each period of menſtruation. In ſome women the diſcharge returns preciſely to a day or an hour, and in others there is a variation of ſeveral days. In ſome it is finiſhed in a few hours, and in others it continues from one to ten days, but the intermediate time, from three to ſix days, is the moſt uſual.

There has been an opinion, that the menſtruous blood poſſeſſed ſome peculiar malignant properties. The regulations which have been made, in ſome countries, for the conduct of women at the time of menſtruation, the expreſſions uſed, the diſpoſal of the blood diſcharged, the complaints of women attributed to its retention, and the effects enumerated by grave writers, indicate the moſt dreadful apprehenſions of its baneful influence. Under peculiar circumſtances of health, or ſtates of the uterus, or in hot climates, if the evacuation is ſlowly made, the menſtruous blood may become acrimonious, but in this country and age, no malignity is ſuſpected; the menſtruous woman mixes in ſociety as at all other times, and there is no reaſon for thinking otherways than that this diſcharge is of the moſt inoffenſive nature.

At the approach of old age women ceaſe to menſtruate, but the time of the ceſſation is commonly regulated by the original, early or late appearance of the menſes. Thoſe who began to menſtruate at ten or twelve years of age, will often ceaſe before they arrive at forty; but if the firſt appearance was protracted to ſixteen or eighteen years of age, independently of diſeaſe, ſuch women will continue to menſtruate till they have paſſed their fiftieth year. But in this country the moſt frequent time of the ceſſation of the menſes is between the forty-fourth and forty-eighth year, after which women never bear children. By this conſtitutional regulation of the menſes, the propagation of the ſpecies is, in every country, confined to the moſt vigorous part of life; had it been otherwiſe, children might have become parents, and old women might have had children, when they were unable to ſupply them with nouriſhment.

When women are deprived of the common uterine diſcharge, they are ſometimes liable to periodical emiſſions of blood from the noſe, lungs, ears, eyes, breaſts, navel, and almoſt every other part of the body. Theſe have been deemed as deviations of the menſes, and communicated with the moſt ſcrupulous exactneſs, as if ſome great advantage was to be obtained by our knowledge of them. But the propriety of conſidering them in this point of view ſeems very doubtful, and I ſuſpect that they ought rather to be eſteemed as diſcharges belonging to ſome diſeaſe under which the patient may labour, or to the ſtate ſhe is in, and that they proceed from cauſes totally independent of thoſe of menſtruation.

Some men have alſo had a periodical diſcharge of blood from various parts of the body, but generally from the hemorrhoidal veſſels. We might ſuppoſe that ſuch conſtitutions reſembled thoſe of women, though the eſſential peculiarity cannot be diſcovered.

SECTION II.

THE cauſes of menſtruation have been divided into efficient and final, and though little has been ſaid upon this ſubject which is likely to procure any practical advantage, ſufficient attention hath been paid both to the diſcovery of the cauſe and end of menſtruation; and where our ſenſes have failed to procure evidence, the imagination hath been called to their aid. To unſophiſticated obſervation, and to a mere relation of facts, or the inferences plainly to be deduced from them, we are unwilling to ſubmit, as the powers of the imagination are by ſuch proceeding checked or ſuppreſſed, and the parade of learning is loſt. Hence a multitude of opinions are formed and transferred by the writers of one age, to be controverted by thoſe of the next, and we are perplexed, but not inſtructed. Of this truth there cannot be a doubt, if we conſider for a moment the number of opinions which have devolved upon us, with reſpect to menſtruation and conception, the fallacy of which it would be the buſineſs of one man's life to confute. But though we are not to be immerged in ſuch enquiries, a curſory view of what has been ſaid of the cauſes of menſtruation ſeems neceſſary, to preſerve the unity, as it may be called, even of a practical diſcourſe.

It has been ſaid, that the fluids of the human body were, like the ocean, influenced according to the phaſes of the moon, and that menſtruation was ſimilar to the tides. This diſcharge has been attributed to a plethora of the conſtitution, or of the *uterus*; to a ferment generated in the *uterus*, or to ſome humour of the conſtitution, as the bile, producing this ſpecific effect upon the *uterus*. The diſcharge has been aſſerted, by ſome, to come from the veins of the *uterus*; by others, from the arteries; and by others, it is ſaid to be poured from cavities or receptacles in the ſubſtance of the *uterus*, calculated to contain a certain quantity of blood, as it was gradually collected. Some have preſumed that it was a ſimple diſcharge of blood, others, that it was a ſecretion; ſome, that it was a conſtitutional diſcharge, and others, that it was merely local.

That menſtruation is not occaſioned by the moon, or any general phyſical cauſe, is evident from the circumſtance of women menſtruating at every moment of its increaſe or decreaſe; and if this reaſon was admitted, it would prove that men and animals ſhould alſo menſtruate. It is not probably occaſioned by plethora, as the loſs of ſeveral times the quantity of blood, diſcharged in menſtruation, from the arm or any other part of the body, does not prevent or interrupt the flowing of the menſes; and in thoſe complaints which ariſe from obſtructions of the menſes, greater relief is afforded by a few drops of blood from the *uterus* itſelf, than by ten times the quantity from any other part. There ſeems be no reaſon for the opinion of any fermenting principle being the efficient cauſe of menſtruation, no part of the *uterus* appearing fitted for its ſecretion or reception; and the opinion of bile acting with any peculiar influence upon the *uterus* was aſſumed, becauſe of the reſemblance between the ſymptoms ariſing from an exceſs or defect of bile, and thoſe depending on menſtruation; together with the influence which thoſe of bilious conſtitutions feel at the time of menſtruation. But this reaſon, like ſome of the former, would prove too much for the intended purpoſe, if it was admitted.

Among the early cultivators of anatomy, it ſeems to have been thought of great importance to decide from what veſſels the menſtruous blood was diſcharged, ſome contending that it was from veins, and others ſtrenuouſly maintaining that it was from arteries; the opinion of there being receptacles in the *uterus* for its collection is of a modern date. This latter cannot be true, as from the examination of the *uteri* of women, at every intermediate period, ſuch receptacles could not have been overlooked if they had exiſted. From the appearance of the menſtruous blood in a healthy woman, and from that of the veſſels by which it is diſcharged, which run in a tortuous manner during the act of menſtruation, it can ſcarcely be doubted but that it is arterial.

The menſtruous diſcharge ſeems to have been conſidered ſimply as blood, though of a different kind from the general maſs, as it has been obſerved not to coagulate. All diſcharges of blood, in which there were *coagula*, have therefore been diſtinguiſhed from menſtruation, and aſſigned to ſome other cauſe. Whether menſtruation be eſteemed a ſecretion ſimilar to that made by other glands of the body, and does not coagulate be-

cauſe

cauſe it is eſſentially different from blood, whether the coagulation is prevented by a mixture with the diſcharge from the mucous glands, or whether it is a ſecretion from the *uterus* peculiar to that part, without analogy or reſemblance to that of any other part, may be proved by future obſervations and experiments.

The various opinions of menſtruation being a local or a conſtitutional diſcharge, may continue to be ſupported by thoſe who think them of conſequence. The diſcharge is local, though its effect may be conſtitutional; but it does not appear that the ſymptoms of the ſuppreſſion of the menſes ſupply a ſtronger argument in favour of the latter, than the regurgitation of bile upon the ſkin, or its diſcharge by urine when the natural paſſage is obſtructed.

Numerous as the opinions have been of the efficient cauſe of menſtruation, two only have been entertained of its final cauſe; firſt, that it was deſigned to preſerve the *uterus* fit for conception; ſecondly, that this blood, being more in quantity than was neceſſary for the ordinary purpoſes of the conſtitution, became, during the ſtate of pregnancy, nouriſhment for the *fœtus*, without any reduction of the ſtrength of the parent.

The firſt of theſe opinions, I believe, is not controverted, obſervation having fully proved that women, who do not menſtruate from the *uterus*, or who are not in a ſtate diſpoſed to menſtruate, cannot conceive; even though they ſhould have a periodical diſcharge from any other part of the body. Hence we may conclude, whether menſtruation be neceſſary for the conſtitution of a woman or not, that it is a circumſtance on which the due and healthy ſtate of the *uterus* very much depends. It has alſo been obſerved that all animals at the time of their being ſalacious, or in a ſtate fit for the propagation of the ſpecies, have a diſcharge equivalent to menſtruation, which is generally mucous, but in ſome inſtances, ſeaſons and climates becomes ſanguineous.

Of the opinions that the menſtruous blood contributes to the formation or nutriment of the *fœtus* there is much reaſon to doubt. The former ſeems to have been founded on the obſervation that women who did not menſtruate could not conceive; and this ſhould have led to another concluſion, that the time of menſtruation was moſt favourable to conception, which is allowed not to be juſt. And as to the ſhare which the menſtruous blood might have in the nouriſhment of the *fœtus*, as all animals whether menſtruating or not, ſupply their conception with nouriſhment of a proper kind, and in a ſufficient quantity to bring them to perfection, we may be permitted to conclude that it is by ſome common principle. If there had been a gradual abatement of the diſcharge, in proportion to the increaſe of the *fœtus*, its nouriſhment might have been preſumed to be one of the final cauſes of menſtruation. But as there is an inſtant and a total ſuppreſſion of the menſes, when a woman hath conceived, they muſt either be ſuperfluous in the early, or deficient in the advanced ſtate of pregnancy.

The mucous diſcharge from the *uteri* of animals proves that they are in a ſtate favourable to the propagation of their ſpecies; and the menſtruous diſcharge is a proof of the ſame in women. For the reaſon of this difference we are to ſearch, in the ſtructure of the *uteri* of the different claſſes of animals. The deſire of procreation exiſts in animals, only at certain ſeaſons of the year; by theſe it is regulated in ſuch a manner, that the offspring will be produced at the time when they are likely to ſuffer the leaſt injury, from the climate in which they are to live, ſo that it is accommodated to every climate; unleſs the genuine nature of the animal be changed by luxurious treatment, or by defect of nouriſhment. Women, on the contrary, having every month that diſcharge which proves them capable of conceiving, propagate their ſpecies at every ſeaſon of the year, and the gratification of the attendant deſire, when enjoyed with prudence, may be eſteemed a peculiar indulgence granted by providence to mankind.

SECTION III.

ALL women have an opinion, that menſtruation is to them a cauſe of diſeaſes from which men are exempt, and their apprehenſions of danger are chiefly confined to the times of the firſt appearance and final ceſſation of the menſes. It is not proved that more women ſuffer at the time of puberty than men, though there may be ſome difference in their diſeaſes; nor is it decided that thoſe diſeaſes, which occur at the time of the final ceſſation of the menſes, are more frequent or more dangerous than thoſe to which men are liable at an equivalent age. Some advantage ſeems to be derived to women from their capacity to menſtruate, eſpecially to thoſe whoſe conſtitutions or particular ſituations require diſcharges of blood for their relief; for ſuch, at all periods of life, are uſually made with great facility from the veſſels of the *uterus*, whereas, in men, theſe evacuations often happen from parts which ſuſtain much conſequent injury. The circumſtances attending menſtruation are, however, ſometimes ſuch as to require medical aſſiſtance, and theſe I ſhall conſider in the following order; firſt, obſtruction of the menſes; ſecondly, exceſs of the menſes; thirdly, painful menſtruation; and then I ſhall ſpeak of the treatment which may be proper at the time of the final ceſſation of the menſes.

By the term obſtruction is properly underſtood the defect or failure of the appearance of the menſes, at a time of life when they might be expected; and by ſuppreſſion, a total ſtoppage of the menſtruous diſcharge which has before appeared. But the terms are indiſcriminately uſed.

Theſe have generally been eſteemed original diſeaſes, producing many troubleſome and, ſometimes, dangerous conſequences; but the moderns have, with more propriety, conſidered them as ſymptoms of ſome diſeaſe with which the conſtitution was primarily affected. But in ſome caſes the ſuppreſſion of the menſes ſeems to be an original affection, often, though not univerſally, ſucceeded by a certain train of untoward ſymptoms; for it appears, in ſome women, to be a ſimple interruption of the diſcharge, not neceſſary for the conſtitution at ſome particular time. The preciſe reaſon of this temporary ſuppreſſion, it would be difficult to inveſtigate, but I have obſerved it to happen, together with a waſting of the breaſts, in very chaſte women, who have been under the neceſſity of living ſeparated from their huſbands.

As very different diſeaſes may become cauſes of the ſuppreſſion of the menſes, and as this may in different conſtitutions produce very oppoſite effects, it is not extraordinary that we ſhould find thoſe ſymptoms, which have been deſcribed as attendant on the ſuppreſſion of the menſes, ſo numerous and ſo unlike. But the two principal diſtinctions are to be made from the appearance of the patients, ſome of whom have a pale leucophlegmatic look, with every indication of want of power and energy in the conſtitution, and a fulneſs of vapid fluids; but others have a florid complection, with ſigns of a hectic diſpoſition. To both theſe ſtates may be joined the ſymptoms which ariſe from uterine diſturbance.

In the obſtruction of the menſes with a pale complection, a variety of medicines have been given, which were ſuppoſed to poſſeſs the properties of influencing the *uterus*, and of promoting the menſtruous diſcharge by ſome ſpecific operation. Speculative differences have been loſt in the uniformity of practice, for thoſe who have differed widely in their theories of menſtruation, and in their opinions of the operation of the medicines preſcribed, have agreed as to the individual medicines which they recommended; and it was of no importance to the patient whether the effect was produced by ſome ſpecific operation, or was ſecondary to an alteration made upon the conſtitution. Every medicine which has the power of ſtrengthening or invigorating the habit, bitters, aromatics, chalybeates, become eventually promoters of the menſtruous diſcharge. But previous to their uſe it will, in general, be neceſſary to give a gentle emetic and laxative medicines, for the purpoſe of freeing the conſtitution from the load of inactive fluids, and of cleanſing the *primæ viæ*, by which the operation of ſuch medicines will be rendered more effectual. Of theſe, chalybeates are ſuppoſed to be the moſt powerful and beſt adapted to the caſe, and they may be given in a variety of forms and quantities, alone or joined with bitters and aromatics, provided the patient has no fever. Bathing in the ſea is in many caſes uſeful, and I have obſerved that the guides to the ladies continue to go into the water during the time of menſtruation, without any inconvenience.

Medicines of this claſs do not always produce the menſtruous diſcharge or its return, though they ſcarce ever fail to improve the health. In the conſtitutions of ſome women, there is an idioſyncraſy which withſtands the effect of ſuch medicines as are generally found to anſwer certain intentions, and yet the ſame end may be gained by ſome other medicine, in general leſs efficacious. Different preparations of mercury have ſometimes been given with advantage. The root of madder has been adviſed either in one or more large doſes, about the time when the menſes are expected, or to the quantity of half a dram twice or three times daily in the intervals. Repeated emetics, which are ſuppoſed to operate not by cleanſing the *primæ viæ* only, but by agitating and calling forth the powers of the conſtitution to more vigorous action, are ſometimes ſucceſsfully uſed. Electricity has lately been practiſed and recommended by men of reputation, and often, I believe, with ſucceſs.

In the ſuppreſſion of the menſes with a pale complection, the diet ſhould be generous, and wine may be allowed. Exerciſe of every kind is proper, but it ought not to be greater than the patient can bear without fatigue. She may often be invited by dancing or riding on horſeback, and theſe ſeem beſt adapted to her complaint.

The ſuppreſſion of the menſes with a florid complection, is uſually combined with ſymptoms very different from thoſe which occur when it is pale, and a method of treatment reverſe to the former is required; for the colour of the cheeks is the fluſh of diſeaſe, and not the glow of health. Such patients have uſually a ſlight cough, pains in the breaſt, ſome difficulty in breathing, fever, and other ſigns of a conſumptive tendency. In theſe caſes, inſtead of purſuing the former intention, with the view of producing or promoting the menſtruous diſcharge, we muſt regard the diſeaſe, and endeavour to give relief by repeated bleeding in ſmall quantities, by antiphlogiſtic and emollient medicines, by a vegetable diet, and by repoſe, forbidding all exerciſe but that of the moſt eaſy kind. The *tinctura Melampodii* has, in ſuch caſes, been ſtrongly recommended; but the principal good which it does, ſeems to be produced by its operation as a gentle laxative.

The menſes are ſometimes ſuppreſſed by ſudden expoſure to cold, or by violent exerciſe and agitation during the time they are flowing. Even in theſe caſes the ſuppreſſion is ſubſequent to the attack of ſome diſeaſe, as a pleuriſy, peripneumony, acute rheumatiſm, or the like; and under ſuch circumſtances, the ſame treatment is to be adviſed as the particular nature of the diſeaſe may require, without regard to the menſes.

The exceſs or profuſion of the menſtruous diſcharge may be of two kinds. It may conſiſt either in the frequency of its return, or the ſuperfluity of its quantity at each period. Inſtances occur, in practice, in which women menſtruate at each period a larger quantity than their conſtitutions are able to afford, yet thoſe caſes, which are uſually reduced under the term profuſion of the menſes, are very rare; what are called ſuch, being either hemorrhages accompanying early abortions, or morbid or ſymptomatic diſcharges from the *uterus.* The ſymptoms of the profuſion of the menſes, are the ſame as thoſe which are produced by hemorrhages from any other part of the body, with ſome peculiar to affections of the *uterus.*

If there ſhould be merely too large a quantity of menſtruous diſcharge at each period, or too frequent returns, ſuch medicines and regimen as ſtrengthen the conſtitution will be proper; and when they have been ſuppoſed to ariſe from the want of a due degree of contractibility in the blood veſſels, gentle emetics, occaſionally repeated, have been of great ſervice. However, in far the greater number of caſes of this kind which occur in practice, the diſcharge ſeems to be ſymptomatic and dependant on the feveriſh ſtate of the patient. For if aſtringent or ſtrengthening medicines are given in the firſt inſtance, they are ſo far from removing the complaint, that they increaſe it; but if the feveriſh diſpoſition be previouſly abated by bleeding, and a proper regimen, ſuch medicines may then be given with propriety and advantage. In diſcharges of blood from the *uterus*, proceeding from diſeaſes of the part, the treatment muſt depend upon the nature of the diſeaſe.

The pain with which ſome women menſtruate at each period, is ſufficient, from its violence and duration, to render a great part of their lives miſerable. Healthy, robuſt women, or thoſe in whom the proceſs is ſpeedily concluded, ſuffer very little at that time; the pain is, therefore, to be attributed to an increaſed degree of irritability in the habit, or to the difficulty with which thoſe veſſels, deſigned for the menſtruous diſcharge, become permeable. It is in general moderated, and ſometimes altogether removed, by the uſe of ſuch means as leſſen uterine irritation, or facilitate the diſcharge. Bleeding in ſmall quantities, gently purgative medicines, and opiates repeated according to the urgency of the caſe, may be occaſionally directed with advantage. Soaking the feet in warm water, or receiving the ſteam of it upon the parts principally affected, will often do much ſervice; but no medicine of this kind gives equal relief with the warm bath, which may be uſed every evening, when the ſymptoms preceding menſtruation come on, and continued throughout the period. Many medical writers have adviſed, and it is yet a popular cuſtom, to give medicines of that kind, which have been called deobſtruent, with the view of promoting the diſcharge by quickening the action of the parts concerned; but as all ſuch diſturb and increaſe the heat of the body, they are found, by experience, rather to add to the pain, than to contribute to its abatement.

At the approach of old age the menſes diſappear, the conſtitutions of women neither requiring nor allowing a continuance of the diſcharge. It was before obſerved, that this event uſually happens about the forty-eighth year of their age, though ſome inſtances have occurred of their ceſſation ſo early as the thirty-fifth, and of their duration to the ſixtieth year of the woman's age.

The menſes ſeldom diſappear ſuddenly, but before their departure, they become irregular in their periods or in the quantity diſcharged. Theſe irregularities are uſually accompanied with diſturbances in the conſtitution, particularly of the *viſcera*, and thoſe complaints which are called hyſteric.

All women are alarmed at the time of the final ceſſation of the menſes, and are perſuaded that the ill conſequences, which ſometimes enſue, are to be prevented by proper care and management. But it muſt be obſerved, that ſcarce one of a great number of women ſuffers more than temporary inconvenience on that account. Nor is it reaſonable to think, that any diſeaſe ſhould be a neceſſary conſequence of the ceſſation of a diſcharge which is as perfectly natural as its appearance or continuance. But if there be a diſpoſition to diſeaſe in the conſtitution, eſpecially in the *uterus*, a more rapid progreſs is made when the menſes ceaſe, not becauſe they give exiſtence to, or increaſe the diſeaſe by their qualities, but becauſe the conſtitution, or the part diſpoſed to diſeaſe, is deprived of a local diſcharge by which it was relieved.

On the preſumption that the menſes retained, became, by their malignity, the cauſe of diſeaſes, many medical writers have adviſed aloetic, and other ſtimulating medicines, which were ſuppoſed to poſſeſs the power of continuing the diſcharge a longer time than the natural. As the principle is not juſt, the practice is alſo in general very injurious; for I hardly recollect an inſtance in which ſuch medicines did not do miſchief, by increaſing all thoſe complaints which were imputed

puted to, becauſe they occurred at the time of, the final ceſſation of the menſes. But the preſent mode of practice is far more reaſonable and ſuccefsful, it being now uſual to bleed occaſionally, and to give lenient purgatives, avoiding all kinds of medicine and diet which are heating.

It is, however, a well known fact, that the *uterus* is more liable to diſeaſes at the time of the final ceſſation of the menſes than at any other, and that either other terminate in a ſchirrus or cancer, with conſequences the moſt painful and deplorable. We have, at preſent, no idea of a cancer but that it is an incurable diſeaſe, and when it affects the *uterus*, beſides the general ſymptoms which ariſe from uretine irritation from other cauſes, there is a ſerous, ichorous, or bloody diſcharge, of ſuch an acrimonious quality, as to excoriate the external parts which it may touch, and at length to corrode the bladder and *rectum*; admitting no other relief than what is afforded by opium, which has only the power of procuring an imperfect and ſhort inſenſibility to the tortures of the diſeaſe.

For the relief of thoſe who have ſuffered all the complicated evils of a cancer of the *uterus*, humanity and intereſt have inſtigated many practitioners to pay the moſt ſerious attention to this

U diſeaſe,

diſeaſe, with the view of diſcovering its cauſe, and ſome adequate remedy; even the pretenſions of empirics have been examined with candour and tried with perſeverance. Of courſe we have been led to the uſe of a variety of medicines, of which great expectations of benefit have been entertained, as preparations of mercury, of antimony, ſarſaparilla, bark, and, above all, the hemlock, either ſeparate or combined with each other. Baths, fomentations, injections of every kind, have been applied with many different contrivances. Some of theſe have evidently accelerated the progreſs of the diſeaſe, and though others have afforded temporary relief, few ingenuous men will heſitate to acknowledge, that the good to be expected from any mode of treatment, or medicine hitherto diſcovered, muſt be obtained by the relief of the ſymptoms, rather than the diminution or removal of the diſeaſe.

It is remarkable that the cure of cancers of other parts of the body, where applications could be made with the greateſt facility and advantage, has not been attempted, when thoſe of the *uterus* have been undertaken with great confidence. This may be among the inſtances in which the credulity of patients renders them liable to the impoſition of empirics. If it be however allowed, that

this

this diſeaſe is incurable, and that regular practice deſpairs of giving aſſiſtance, the trials of empiriciſm, under ſome reſtrictions, may not only be permitted but encouraged, with the hope of ſome caſual good.

But this eagerneſs to diſcover ſome ſpecific remedy for a cancer, has, in one view, been productive of miſchief. Though the eſſential nature of the cancerous *virus* is unknown, one of its firſt effects is inflammation, with its concomitant ſymptoms. As the diſpoſition to inflame may often be removed by bleeding and proper medicines, the part may be kept in a quieſcent ſtate, and the progreſs of the diſeaſe retarded. For this purpoſe alſo, local bleedings, with ſcarification or leeches on the lower part of the back, or on the thighs, are often uſeful, and iſſues have been found, in ſome caſes, to have done much ſervice. But if theſe means of giving relief are neglected, and we are wholly engaged in the contemplation of an abſolute and effectual cure, it appears that we reject a leſs advantage which is in our power, for the purſuit of a greater, though diſtant good, which we may never acquire. It muſt alſo be obſerved, that many caſes have occurred in which thoſe ſymptoms, which commonly attend a cancer of the *uterus*, have come on with great rapidity and violence, yet the patient has not only been relieved, but an effectual cure hath been obtained by activity and perſeverance in the antiphlogiſtic treatment.